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JUNE 1988

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Dear Reader

Although there have been tremendous changes in the world of Commodore computing since C.C.I. was first published over six years ago, one thing has remained constant. The wish on the part of the readers to be informed of the latest additions they can make to their software or peripherals armoury is probably the strongest reason for buying C.C.I. We are made aware of this through the communications we receive about the products we review, especially when we do not include a contact address or telephone number! We also know that the companies supplying these products get immediate response.

It is not surprising that there should be such a sharp interest in products of all kinds – whether serious or entertainment. While there must be millions of computers blocking cupboards and closets all over the world, which were acquired by people who thought that buying a computer was all they had to do or for them to move powerfully into some magical electronic future or put their kids top of the class at school. For anyone who goes on using a computer after the first hour or two, there quickly comes the realisation that there is always more not just to learn but also to add-on and what you add makes computing more interesting, more worthwhile and just more fun. The news, reviews and features we publish about products certainly seem to be regarded by readers as playing a vital role in helping that to happen.

As the leading edge development has passed to the 16 Bit computers, the reviewing of new products for the 64 and 128 has become more difficult, for the deluge of products of a couple of years ago has almost stopped. Only on the games side does there seem to be no let up in the flow, though that is often in budget releases or re-releases. So it is neccessary for us to look internationally to find what is happening and report it to you. In this issue, we are able to include a whole raft of new products, mainly from the United States for the 64 and 128. And we can promise you that we have found more and plan to cover them in future issues.

These products, software and hardware, make Commodore computing more exciting and rewarding. But, of course, they probably require some effort on the part of the user, if it is only typing in a few instructions.

That is what the VP of Accolade, the American entertainment software house, who is interviewed in this issue calls 'Interactivity'. He points out that too many people these days are content to sink down before a TV and become "Couch Potatoes". The obvious interest of Commodore owners in new products is the clearest evidence that *they* are not sprouting roots and getting square eyes, or, as a recent book called it, "being entertained to death".

The Accolade interview is the third part in our series about major companies in the U.S. "Silicon Dreams". It is not unusual for computer magazines to take a look at new products but it is not so usual for them to examine in depth the companies behind the products and to provide an international viewpoint in the way this series has done.

We regard ourselves as a genuinely global publication, and, as the Commodore is certainly the most international of the home/micro computing brands, our readership is spread worldwide. It seems that readership finds this and other features that provide a view of what is happening round the world almost as fascinating as what is happening in their own countries.

When we look at those international activities what we are doing is also finding out what new developments are under way, too; which brings us back to finding out about the new products in which readers are so interested...

In this C.C.I., as we try for in all issues, the mass of reviews of all kinds of products, the international viewpoint and the other special and regular features should be stimulating enough to get most people out of the couch and interacting with their computers.... C.C.I. is not, we hope you'll agree, the magazine for Couch Potatoes.

A.H. Jacobson

Anthony H. Jacobson
Managing Editor and Publisher

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Special Offers

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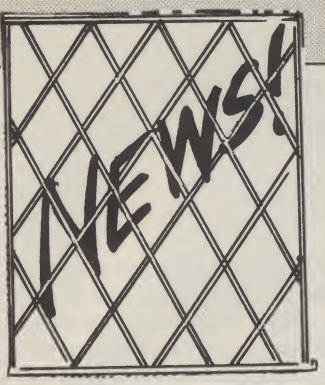


75bn times a second

SUB-MICRON-sized silicon circuits that can switch on and off 75bn times a second have been developed by the IBM laboratories at Yorktown Heights in the US.

The circuits have to be immersed in liquid nitrogen and are still very much in the experimental stage, but their performance more than doubles previously reported highest speeds. The devices use transistor elements with dimensions measured in tenths of a micron (a micron is a millionth of a metre).

Chips using such circuits could hold several million logic elements that switch 10 times faster than semiconductors in use today. To form the microscopic patterns needed for such circuits, IBM uses electron beams which are capable of making lines only 0.05 of a micron wide and have comparable accuracy of placement. Such tenth-micron silicon devices might be the future basis for machines the size of today's personal computers but with computing power comparable with supercomputers.

Welcome to Hotel California

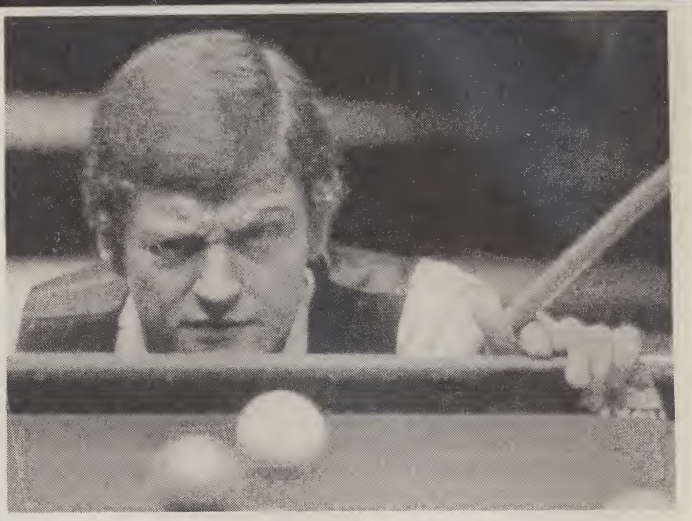
Telemap Group Limited is opening a hotel — California, a new form of computer entertainment available via the telephone to computer users.

The service, which is accessed by an 0898 telephone number, has all the features you expect to find in an American Hotel. A *Casino* where guests can play games to win big money prizes, a *Newsagent* with classified advertisements and a *Shopping Mall* run by mail-order giants kays where they can purchase everything from a Burberry to an automatic camera.

Guests of The Hotel California can also send on-screen messages to each other. They can meet for a public chat in the *Cafe Society* or arrange a private conversation with one or more users in the *Conference Suite*. *The Hotel's Night Porter* offers horoscopes and even acts as an Agony Aunt where guests' personal problems are answered.

Hotel California is open to all over 18s with a computer and a modem. They dial 0898 10 0890 to enter the world's first Hotel on computer. Telemap Group Ltd., is promoting the new service with a competition offering users the chance to win a holiday for two in California.

Contact: David Rosenbaum, Telemap Group Ltd., 01-278 3143.



Steve Davis in champion computer form

Steve Davis Snooker was an enormous success in the original full-price version, selling over 180,000 copies to date and has now hit the charts as a budget. Hailed as a breakthrough in programming, it allows the player to challenge the computer to a breathtaking match, and with the coded skills of Steve Davis in the program, the game tests the cuemanship of even the most expert player.

Blue Ribbon budget release retails at £1.99 on cassette and £4.99 on disk, C64.

Police Data Protection Codes

The Data Protection Registrar, Mr Eric Howe, has welcomed the new Codes of Practice for police computer systems published by the Associations of Chief Police Officers

The Registrar said "The use of personal data by police forces is both necessary and inevitably sensitive in a number of aspects. In these circumstances, the good practices laid down in the Data Protection Act become of particular importance. These Codes will assist police forces to comply with the data protection principles contained in the Act."

In his foreword to the Codes, Mr Howe states "There are a number of particularly welcome aspects of the Codes, for example, the recommendation not only to correct inaccurate information as soon as possible, but also to inform any third party to whom the inaccurate information may already have been disclosed. The detailed guidelines for security, and for monitoring and inspection are also welcome."

The Codes recommend that when collecting personal information, police forces should, wherever possible, inform the individual concerned, or the third party source, as to the uses to which the information may be put.

Copies of the Codes of Practice are available from: Chief Superintendent, Communications Department, Merseyside Police, PO Box 59, Liverpool L69 1JD, price £4.00 (cheques payable to Merseyside Police).

'The Chaos Club'

A member of the West German hacking ring, the Chaos Club — which last year infiltrated a NASA nuclear research scientific network — has been arrested by the French police.

Steffen Werney, 26, allegedly hacked into sensitive French computers. He was arrested at Orly airport, en route to present a paper at a three day conference on computer security. Werney does not deny breaking into the computer and has given police information to implicate others.

Bowthorpe's Power Filter

The Master Controller, one of three low-cost but effective 'clean power' devices by Bowthorpe, one of Europe's leading makers of power control equipment is now available to reduce data corruption or damage to sensitive computer equipment resulting from voltage surges and spikes, and from mains-borne radio-frequency interference.

The Master Controller, for use where equipment has to switched on in a given sequence, has five outlets, one of which is a master socket which switches on the other four sockets in a controlled sequence with a delay of three to four seconds. This allows more sensitive units to be activated only after other items are safely powered up.

Contact: Action Computer Supplies, Abercorn Commercial Centre, Manor Farm Road, Wembley, Middx HA0 1WL. Tel: 0800 333 333.

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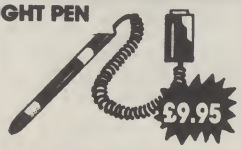

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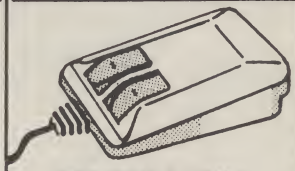

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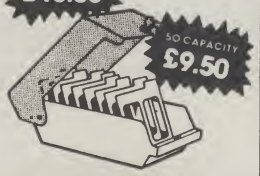

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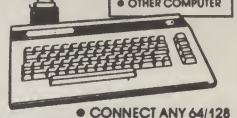

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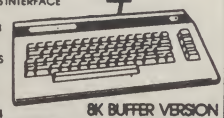

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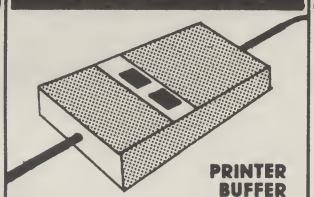

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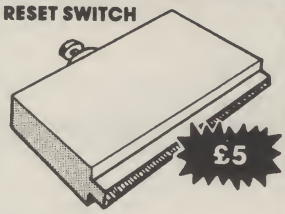

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This simple, yet ingenious, stackable unit comes complete with 12 individual library cases and record cards to protect 3" or 3.5" disks so that disks now supplied without cases will be automatically 'en-cased' when stored in these units. Unit dimensions are 165mm × 165mm ×152mm; modular stacking being executed by simply clipping the units together using the clips provided.

Finished in a textured light grey, with dark grey access buttons, the individual units (complete with cases and cards) have a recommended retail price of £12.95 each.

Contact: Earley Marketing Ltd., Calleva Park, Aldermaston, Berks RG7 4QW. Tel: (07356) 77171. Fax: (07356) 6439.

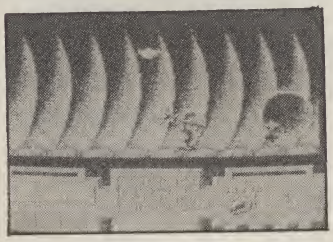
SFX releases programmer's Intestines

"Gutz" is the title of Special FX's new computer game, marketed by Ocean. The Commodore 64/128 (RSP £8.95 cassette, £12.95 disk), the game's scenario is set within the mega-body of an alien.

Inspiration for this enigmatic location came from Andy Rixon, Special FX'S graphic artist. He recently underwent an exploratory barium meal examination, which resulted in some stimulating pictures of his own guts! After being gobbled up by an Alien, Dandy Nixon, sorry, the player, remains trapped but alive within its body. The objective is battle through the body and escape through its mouth. The final screen features a vicious battle with a pair of molesting molars.

The game is set in a scrolling 3D maze of the body's cavities which are depicted in the top two thirds of the screen — the lower third carries the status display, and a body location scanner. It is also possible to switch over at any time for a three-minute view of a body map.

There are four game levels representing one of the body's organ chambers, such as a heart or kidney, these are all connected by tubes and ducts.



SFX's Gutzy new release

One by one the organs have to be closed down or killed, before making the ultimate escape. There is only one "Super Weapon" capable of rendering each organ impotent, (I beg your pardon! Each organ?) and this has to be constructed from three concealed components.

As well as being imprisoned within the Alien's body, the player has to cope with a series of microbes and lethal gases which aim to free the body from foreign bodies. Help is on hand in form of a safety helmet which gives temporary immunity, and crystals which can be broken off the body's walls for extra energy and fire power. Andy Rixon is now fit and well, and managed a high score of 71,000,540 when he played the game.

SFX had a successful debut release with the mega-rated Firefly. Gutz looks like a solid follow-up for SFX's growing reputation for originality.

Citizen's Overture 110+

Citizen Europe has announced that it has enhanced its ten page per minute laser printer, the Overture 110, with seven additional features to endorse further its role as a daisywheel replacement. The price of the new machine, called the Overture 110+, remains, however, unchanged at £1,750 (excl. VAT).

Trilogic's Dual Joystick Adaptor

How often have you loaded a game on your Amiga only to find that the joystick uses the same port as the mouse?

Trilogic's new DJA 1 Dual Joystick Port Adaptor lets you connect two games control devices to one port and switch instantly to either.

For Amiga, C64, C128, + most computers with 9 pin joystick port.

Computerised Braille

Braille Text, conventionally embossed using mechanical machines designed 40 years ago, can be produced from both human and electronic sources using a £500 unit called the Mountbatten Brailler.

The new machine was designed by Pankhurst Design and Developments of London, in conjunction with the Royal National College for the Blind. The project was funded by the Mountbatten Memorial Trust.

A standard braille keyboard is used so that operator conversion from existing machines is simple for blind or partially sighted audio typists.

The six dot matrix characters are embossed on to the paper by an electromechanical head at speeds that easily exceed maximum keyboard speed. Incorrect characters can be corrected by a special dot flattener in the head and, for training purposes, several £50 keyboard-only units can be connected to a single embossing unit. In addition, the keyed material can be fed to a personal computer, where sighted persons can make use of it. Conversely, text produced by sighted (or blind) people on a personal computer's "qwerty" keyboard can be sent to the brailler to be embossed.

These electronic refinements are expected to increase the employment of blind people in modern offices that use information technology.

Contact: Pankhurst Design. Tel: 01 381 5615.

continued on page 13

FROM THE MAJOR DEVELOPMENTS TEAM.
CREATORS OF THE AWARD WINNING *DRILLER*

DARK SIDE

MISSION: Locate & destroy Zephyr One weapon on Dark Side. Avoid Plexor tanks. Disable Matrix ECO's, use tunnel network and jet pack to best advantage. Time is short. END

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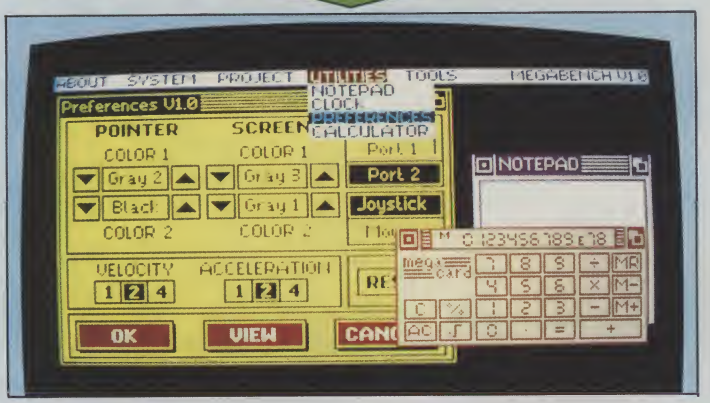

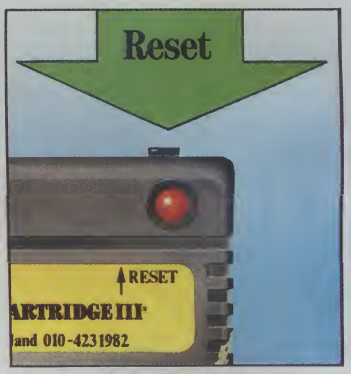

THE FINAL CARTRIDGE III®

A POWERFUL 64K ROM BASED OPERATING SYSTEM FOR THE C64 AND C128

Easy to use WINDOWS and PULL DOWN MENUS allow you to select with either mouse, joystick or keyboard more than 60 new COMMANDS and FUNCTIONS. Various PRINTER-INTER-FACES, a BASIC TOOL-KIT

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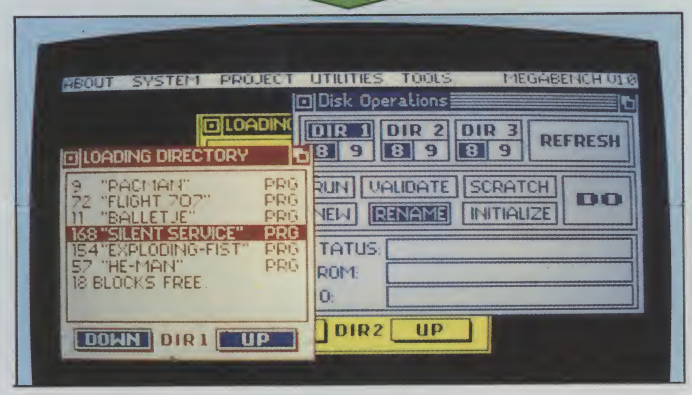
WINDOWS



THE FINAL CARTRIDGE III®

The high-resolution bit mapped windows are selected from a menu bar. An unlimited number of windows can be open on the screen at the time. The windows can be freely moved on the screen.

The following windows are already implemented in ROM:

PREFERENCE WINDOW
Selects: mouse port, joystick port, mouse speed, screen colours, pointer clours, keyboard click, keyboard repeat.

CALCULATOR
Complete simulation of a LCD-calculator. Input either with mouse, joystick or keyboard. The numeric key-pad of the C128 can be used in C64-mode.

NOTE PAD
Easy to use wordprocessor with proportional characters enables you to store and print small notes, letters, etc.

DIRECTORY WINDOWS
Enables you to open directories from different disks and drives, sort and print directories.

DISK WINDOWS
Load, Run, Rename, Validate, Scratch, Initialize, Fast format disks.

TAPE WINDOW
Activates fast and normal modes.

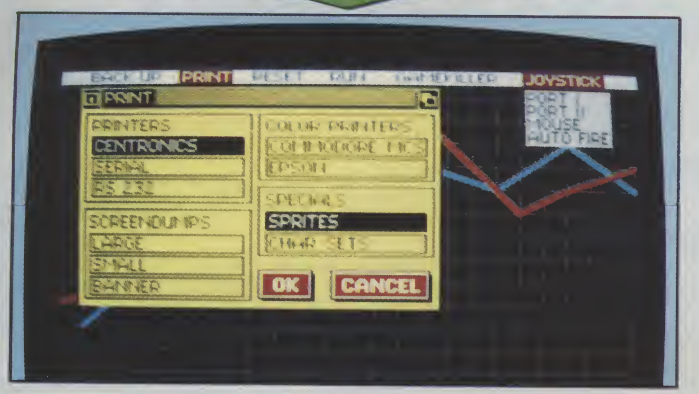
PRINTER WINDOWS
Select different printers, such as Commodore serial, Centronics, RS 232, Colour printers.

REQUESTER WINDOWS

DISC BASED USER WINDOWS

CLOCK
Real Time Clock, with Alarm.

FREEZER MENU



THE FINAL CARTRIDGE III®

Innovative hardware, combined with smart software, allow you to freeze and continue every well-known C64-program.

Freezer options include:

CENTRONICS/SERIAL/RS 232 SCREENDUMPS
● Full A4 printing ● Variable printsize ● Colour printing ● Sprite printing ● Reverse printing ● Colour changes.

GAMEKILLER
● Kills sprite to sprite ● and/or sprite to background collision ● Can be started at any point in your game.

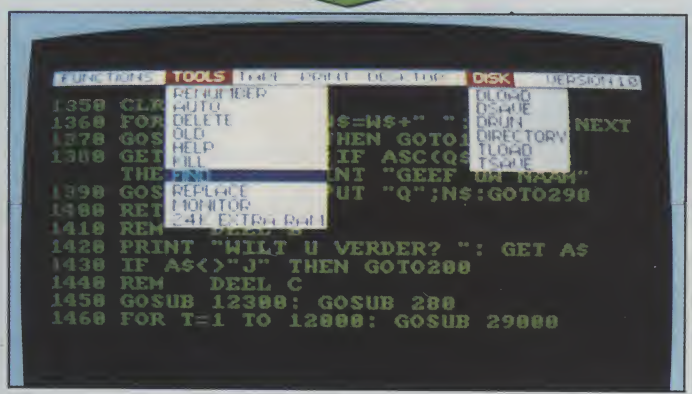
AUTO FIRE
● Transforms a normal joystick to an advanced auto fire engine.

JOYSTICK PORT CHANGER
● Never blow up your computer again by changing joystick ports while the C64 is running.

BACK UPS
● Disk to disk ● Tape to disk ● Disk to tape ● Back up files are packed and reloadable without the Final Cartridge III ● 60K in 15 sec. (disk) ● Exits to Monitor or Basic.

ML MONITOR
Comfortable ML monitor.
Does not reside in memory.
Functions include:
● Scrolling up and down ● 64K ROM/RAM access ● Sprite editor ● Character editor ● Drive monitor ● Fast loading and saving ● Printer driver.

PULL DOWN MENU



THE FINAL CARTRIDGE III®

Almost all commands and functions that are not activated by windows can be selected from a menu bar, which appears on top of the screen after pressing the fire button, either in Basic or from the freezer. The following Basic Toolkit and keyboard extra's are included:

● Renumber ● Auto ● Delete ● Old ● Help ● Kill ● Find ● Replace ● 24K extra RAM for Basic ● Append ● DAppend ● DSave ● DOS ● Monitor ● Drive monitor ● Sprite editing ● Centronics interface ● Fast format ● Low Res screen-dumps ● Plist ● Scrolling up and down ● Stops and continues listings ● Pro-grammed functionkeys ● Packer/Cruncher ● Hex to decimal conversion ● Pokes, syscalls and variables may all have Hexadecimal values ● Trace, Dump, Order, Mem.

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UK Gamer Wins CMOH

A London teenager last week joined the ranks of the gaming elite by winning a Congressional Medal of Honour in Gunship.

MicroProse' popular helicopter simulation has been challenging games players for more than 12 months now, though only a handful have managed to win this cherished honour. Rainer Gellert of East Ham has been a Gunship fan for many months, though he only managed to secure his CMOH after many long hours of patience and enjoyment.

"I'd been looking for a really good helicopter simulation for ages. Most of them are absolute rubbish, but Gunship is the best and has a great combat element," says Rainer. "It's an enjoyable and addictive program, as are all MicroProse products."

To win a CMOH the player hs to score in excess of 5,000 points on a single mission, flying at Ultimate Level in Western Europe.

Rainer achieved his Medal on a C128. He also has a C64 and 16K Sinclair Spectrum. His interests include computers and communications, weight lifting and martial arts.

Prism and the 16 bit Markets

Prism Leisure, one of the UK's largest entertainment product distributors, have used their considerable experience and market knowledge to research the current 16 bit market.

With that in mind, Prism Leisure has announced a new pricing structure for their 16 bit ranges — ST Leisure, Amiga Leisure and PC Leisure. The Amiga Leisure products will retail at £12.99 with PC Leisure at £9.99

Prism Leisure have not only restructures their pricing, but also their in-house publishing staff to become "a super-efficient, motivated work force with their eye's firmly set on the future." (Well they can certainly write a press release!)

They say they are determined to become a driving force within the leisure software industry and has a goal of becoming "The Software Publishing House' in the UK. (Whatever they may mean!) If any budding programmers feel that they have a suitable, origianl program, then Prism Leisure are ready to see them. They should contact Prism Leisure direct and ask for Mark Pearce — Software Division Director.

Prism Leisure 01 804 8100

Firebird opens up Pandora

Life aboard a renegade seventh generation space ship is not a ball of fun, especially if you are an Intergalactic Salvage Dealer.

Having been beamed aboard the spaceship Pandora, your primary job is to salvage any alien artefacts that have been collected by a group of top scientists on a voyage that started in the late 20th century.- It is now the 22nd century, and the Pandora has only just returned to Earth's orbit.

Are her crew still alive? What has happened to the ship in the last two hundred years? These problems and many more are yours to solve.

Character interaction plays a large part in this space venture. Accessing the Pandora's computer may give some clues and valuable information in solving the more complex puzzles and traps that lie in wait for the unwary.

Pandora will be released on Amiga at £19.95 each and the Commodore 64 disk at £12.95 and C64 cassette at £9.95

Budget

Addictive Games have annouced the re-release, on their budget label, of Arac an the Arachnidroid, which was mega-noted when it come out full price in 1987.

You are Arac, a droid that can jump, glide, fire a net to capture creatures and even imprison them until you need their help. You have a mission, the aim of which is to deactivate three reactors that are threatening to over-heat with devastating results.

Arac and the Arachnidroid will be released on Commodore 64 cassette priced at £2.99 with disk priced £6.99.

No More Wet String

A new class of computer, combining supercomputer speeds with three-dimensional full colour graphics, has been launched by California-based Ardent Computer Corporation.

Ardent claims that its Titan system, which runs a specially written program called Doré, will have wide appeal because of its power and relative low cost.

Possible applications include computational physics molecular modelling, fluid dynamics, mechanical computer-aided engineering, seismic processing, reservoir simulation and animation.

Titan will be attractive to scientists, says Ardent, because of the speed at which it can transform computer data into high quality graphic form. The system works at 50m pixels a second, so that images appear as the data is put in. This means the scientist can alter the parameters as they go along in order to see how the image changes.

"Titan and Doré will offer scientists a new way of looking at problems. They will be able to see the physics evolve as it is designed," says David Howes, UK managing director or Ardent.

When computer scientists want to visualise results on other machines, they are obliged to re-code the data for graphic display and then run it on a separate processor. The connection between the two processors, known as wet string, does not allow interaction and tends to slow things down.

Ardent has achieved its speed through computer architecture which links the units in parallel processing rather than in series. This allows the speed of communication between them to be increased.

A single processor Titan will be available for £60,000. While it will not process information as fast as a $6m (£3m) Cray super-computer, its lower cost and graphics facilities will allow universities and research facilities to devote machines to single users, so avoiding the delays associated with sharing computer resources.

Trilogic Splitting Sound

Some home computers now have stereo sound output. The C64 and 128 are mono but even so the Commodore sound chip is the most impressive and sophisticated of them all. However, all electronically produced sounds suffer from a dry, 'artificial' quality. Digitally derived sounds such as those generated by a computer are even less realistic because all the frequencies are synchronised to the computer's master clock.

Trilogic's new Sound Splitters add the dimensions of depth and spatial frequency distribution to any electronically produced sounds to give a more realistic presentation of the computers sonic qualities.

The Sound Splitter (price £29.95) just plugs into the computer's audio/video socket. Two phono sockets provide the left and right channel outputs for connection to your hi-fi or stereo with the lead supplied. An intensity control lets you vary the depth of the reverb effect and a bypass switch is fitted so that you can hear just how effective the Sound Splitter is.

The Sound Splitter 2 (price £34.95) has a 3.5 mm stereo jack to ¼" stereo headphone jack. If you have a monitor connected to the computer's A/V socket, Trilogic can also supply a two-way adaptor so that you can connect both monitor and Sound Splitter. Both units come complete with computer lead, 2 metre hi-fi/stereo connecting lead and mains powerpack. No software is needed.

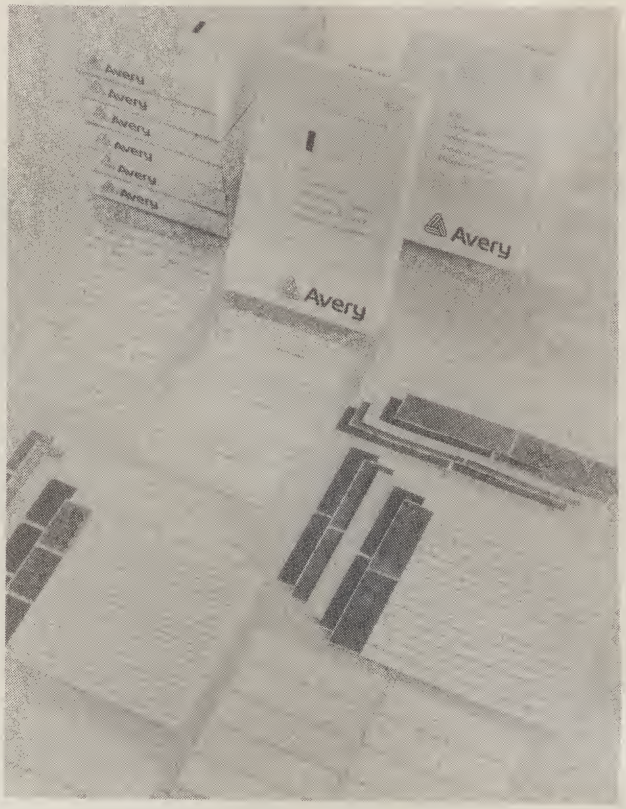
Contact: Trilogic. Tel: 0274 306409

New Data Control Labels

Avery's new Data Control Labels, specially designed for use with magnetic media, use a special adhesive which allows them to be removed or re-positioned without leaving any adhesive residue behind. This makes them particularly suitable for media which are re-used many times in different applications.

The lables are available in nine shapes and sizes, including rectangular versions for 3.5in and 5.25in diskettes, digital cassettes and cartridges, and specially shaped versions for both large and small tape reels.

Contact: Action Computer Supplies, Abercorn Commercial Centre, Manor Farm Road, Wembley, Middx HA0 1WL. Tel: 0800 333 333.



Telemap's Computerised Conference Centre

Telemap Group has launched TeleTalk, a teleconferencing (real-time, multi-user conversation) service for home computer users — initially only available to Micronet members — and is developing a business version for launch later in the year. TeleTalk allows users to gain control of an on-line 'room' on the TeleTalk computer and hold live conferences or discussions on the subject of their choice.

The organiser (Keyholder) can control a conference by using such commands as CLOSE/OPEN DOOR (of room) and ADMIT (user). A noticeboard facility allows public conferences to be set up with time, venue and subject displayed. Breakaway and private meetings can also be arranged in one of the 30 rooms available.

TeleTalk allows up to 64 users to attend a conference at any one time. The service, which costs 3p a minute for Micronet members, operates on a dedicated mini computer.

TeleTalk will be launched onto the whole of Prestel later this year.

A version of the teleconferencing system designed with business users in mind is also under development. This service (which will have a different name) is planned for launch on Telecom Gold later in 1988 and will make on-line business meetings a reality.

Phil Godsell, Product Manager for Teleconferencing, commented, "On-line teleconferencing offers tremendous potential — both as an entertainment form and as a serious business tool. We fully intend to support both markets with products tailored to suit the needs of the user."

QUESTRON II

Questron II is being brought out as a follow up by S.S.I. they claim that Questron II "offers an experience in fantasy gaming so awe-inspring, it surpases even its legendary predecessor! Its all-new, state-of-the-art graphics is nothing short of stunning." Wow!

It seems the only way to destroy the Evil Book of Magic is to prevent it from ever being created!

And with these words from Mesron, the Great Wizard, you realise the adventure you thought had ended in Questron has only just begun. Wow! Wow!

When you explore the dungeons you will see: They are shown as 3-D displays — fully rendered and animated. An overhead view is presented alongside to help you get your bearings.

SSI says it has been no easy task to outdo the first, Questron but tell us they think they have managed it.

C64 £19.99
Amiga £24.95

Ocean's New Konami Compilation

Ocean Software is releasing "Konami's Arcade Collection" — a compilation pack of ten games all based on Konami's coin-operated arcade hits. It is available in formats for the Amstrad and Commdore.

The Commodore version will include "Green Beret" "Yie Ar King Fu" "Hypersports" "Mikie" "Pink Pong" and "Yie Ar Kung Fu II" which were programmed by Imagine Software. and also "Iron Horse", originally released on the Konami label. Price of £9.95 for the cassette version, and £17.95 for the disk.

More news on page 125

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We apologise for the slight price increase on some items. This is because we are now using 1st class post because of the poor service offered to us by the Post Office when we used 2nd Class. Many thanks to all the people who ordered from us last month.

SUPER GRAPHIX GOLD

Printer Interface *Xetec Inc*

Those readers with long memories from the heyday of the C-64 will recall a printer interface device named "The GRAPPLER". This allowed you to interface virtually any Centronics-parallel printer, and escape from the limited facilities of the various printers then on offer from Commodore. Times change and although Commodore have improved their printer range, the method of driving these printers means that the purchaser cannot utilise these same printers with other machines. For example, the AMIGA can drive either an RS-232 serial or Centronics-parallel printer but not any of the MPS-series of printers.

Although "The GRAPPLER" is no longer with us (though it is still available for APPLE 8-bit machines), its replacement has arrived in the shape of the "SUPER GRAPHIX GOLD" printer interface from Xetec Inc., of Salinas, California. The primary feature of this interface is that it will drive a Centronics-parallel printer from all variants of the C-64 or C-128. In addition the interface offers the following:

32K buffer with 8 switch-selectable operating modes. 20 secondary addresses and direct support for 32 printers. 4 internal screen dumps together with 4 fonts in ROM (a further 4 are supplied on disk). The fonts support the usual word-processing features of italics, bold, subscripts, etc. Fast serial communication when used with the C-128. More than 52 available commands and direct-from-disk download and dump facilities. RESET and CLEAR push-buttons together with an activity/error LED. Correct graphics/text ratio for all major printers.

The operating modes provided by the SUPER GRAPHIX GOLD are:

1525 Emulation *— This mode makes your printer behave as the Commodore 1525 printer (faster in operation because of the 32K buffer).*

Gold Mode *— This is similar to the previous mode and permits more legible BASIC listings and transmitting special control codes to your printer.*

SuperGraphix Mode *— Very similar to the Gold Mode with further enhancements such as fonts and bit-map graphics.*

ASCII Conversion *— Conversion of Commodore ASCII to standard ASCII. Used when operating the C-128 in CP/M mode.*

Hexadecimal Monitor *— All data sent to the printer is printed in hex values, useful for debugging purposes.*

Decimal Monitor *— As above, except values are printed out in decimal.*

Semi-Transparent *— All data is passed through unchanged to your printer with the exception of fonts.*

Transparent *— All data is sent to the printer unchanged, although a DIP switch setting can cause the addition or deletion of line feeds.*

The supplier makes the claim that it is "the ultimate printer interface" and very largely this is no exaggeration. The package consists of a user manual, disk and the interface hardware.

The manual is an object lesson to suppliers in how product documentation should be designed.

The manual is an object lesson to suppliers in how product documentation should be designed. A table of contents, no less than 18 appendices, an index together with 25 tables for the DIP switch settings and command options are contained within 80 pages. The manual covers everything from configuring the interface to programming the device in 6502 assembly language. A detailed exposition is given on user-defined fonts as well printing high-resolution screens. Extensive use is made of diagrams to explain wiring connections.

The disk contains a very large number of files, most of which are font definition files. There are also several useful demonstration programs as well as some powerful utilities. The first utility I looked at was named "CREATE" which is a font editor. Hardware limitations in terms of the display size meant that this utility operates only the C-64 mode. The utility named "FEATURES" assists in programming the interface without worrying about "escape codes". There are two font format conversion utilities and

There are two font format conversion utilities and for absolute beginners, a utility named "SWITCH" which helps in the setting of the interface DIP switches.

for absolute beginners, a utility named "SWITCH" which helps in the setting of the interface DIP switches. The disk is not copy-protected which means you can transfer files at will.

The interface device consists of a well-constructed steel case with the DIP settings usefully stencilled on the upper cover. Removing the cover yields a high quality PCB with clear markings. The manual describes modifying the PCB to take power from the printer lines (if available) and making a system reset cause a printer initialisation. The former option allows you to discard the 9 volt transformer/rectifier supplied with the unit — and employ it elsewhere, of course. For the hardware fans among you, the UART used is a 6303 and the RAM is a CMOS 62256 circuit. I would have liked to have seen a RAM expansion capability here in the shape of a socket or two, but unfortunately the 62256 is directly soldered to the PCB.

The interface plugs into the serial port and since there is no pass-through, the unit must be the last device in the chain. A further cable with a 36-pin Centronics-parallel connector is then attached to your printer. To avoid serial bus device numbering conflicts, the interface can be set to device 4 or device 5. The final connection is a 9 volt supply from the power supply unit — this is one of those calculator/personal stereo assemblies, thus replacement should present few problems. My only complaint here was the length of the supplied cables. In particular the printer cable was far too short — less than 18 inches. When will hardware suppliers realise that a realistic minimum length of cable should be 1 metre.

The latest acquisition to my ever-growing collection of printers is the EPSON LQ-500 and the SUPER GRAPHIX GOLD drove this perfectly. The LQ-series is covered by the manual and I was able to produce some stunning work, particularly in bit-map mode. When printing out text from SUPERSCRIPT, the combination of the printer speed and the 40K of RAM buffers (the LQ-500 has an internal 8K buffer) made short work of long files. To give you some idea of the size of a 32K buffer, this is equivalent to about 16 SUPERSCRIPT screens. Since most users are unlikely to be manipulating documents larger than this, for most purposes entering the printing cycle will immediately release your machine for further work.

I found this combination of a fast 24-pin dot-matrix printer and the SUPER GRAPHIX GOLD interface to the next best thing to a laser printer. Well constructed together with a comprehensive, accurate manual. An excellent product.

B.C.

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Market Leaders

ACCOLADE

"The Consumer is King!"

"We're good at what we do... Sure, we could go out and sell pizzas or cars and make money but we don't know that business". That very practical attitude is taken by Peter Doctorow, Vice President in charge of Product Development and International Marketing at Accolade, an organization regarded by most knowledgeable people as meriting its reputation as one of the most creative entertainment software companies in the U.S.A. — which means in the world.

Accolade's style of software is not quite like anyone else's. It has not built its renown on a single basis like Microprose (see CCI May) or established its special formula like Epyx (see CCI April). It has tried a number of different areas starting with sports games like Hardball and Mean 18 but moving onto unusual products such as its highly-acclaimed three disk COMICS. Now it is releasing some sharply focussed action simulations like Power at Sea and the bestselling Test Drive which looks possibly like Accolade's most successful program ever.

The common factor of this apparently wide range is that the Accolade brand is immediately recognisable by the quality of the product. Hardball, for example, is rightly regarded as a classic of its style. It moved the baseball simulation further into reality than had ever been achieved before. It is still exceptionally popular among those who bought it back at the beginning of its now two year old career. Test Drive seems probably able to reach the same levels of loyalty. Unusually among chart hits, it is selling consistently over a long period and still rising.

It is this highly professional drive for exceptional results that moves Accolade out from the bunch of big players in the software entertainment manufacturing industry. One reason for this is that the founders of the company were technically involved with software even before Accolade started. The two original directors — still running the company today, were Alan Miller and Bob Whitehead, who were leading figures in the creation of the early Activision that was formed as a breakaway from Atari when that then powerful games creating organisation floundered at the beginning of the 1980's. Bob Whitehead himself wrote Hardball and still is largely responsible for the drive for excellence of product that fuels Accolade. But, since Accolade started three years ago, with turnover up to $10,000,000 (£5.5 million) a whole new set of experienced and professional management has been brought in to give the creative team the organisational back up to keep the products and the profits flowing.

"My God, we don't know the Spectrum or the Amstrad machine or the Schneider or the Thomson or the Olivetti... There's a lot to learn in the business that we're in..."

Part 3

In America

Land of Silicon Dreams

Peter Doctorow is a key figure in this development. Previously a director of a division of a large multinational defense contractor, he has gained a solid grounding in how to get quality into software and get it out on time, and he views Accolade from that standpoint. "We're still a young company... We're still growing. We're trying to gain a larger percentage of the marketshare. My God, we don't know the Spectrum or the Amstrad machine or the Schneider or the Thomson or the Olivetti... There's a lot to learn in the business that we're in..."

Doctorow lived in Europe and worked there for two years. "I understand the market in Europe is very fragmented — the mentality in France is very different than it is in the U.K.... very different than it is in Germany..."

Accolade's dedication to bringing out the best gives it a special view of how to sell its products. "We think the most effective way of selling product is by word of mouth. A guy tells his friend "I just bought a... You can't believe how great this is! You've got to try it!"

Doctorow is articulate; a conceptual thinker, he has clearly considered Accolade's positioning in a still developing industry. "We try... to continue to offer quality product to the consumer... He may not like every one of our products because he may not be interested in... space simulation... but if he gets an Accolade title, he knows he's going to get a good, well-done piece of work... The consumer is king... We've very conscious of this theory of vapourware, so we don't ship off product before it's really done... We don't send out demo versions two or three months ahead. So rather than be branded with "Another thing they said was going to be shipping and hasn't... We start a bit slower... We have not had a cascade of products coming out and not all of them have been licencable in Europe... We did recognise that Europe was a market place but it was less bang for the buck... with Electronic Arts" — who are now responsible for Accolade's distribution in Europe — "we hope to have a more personal service... We have David Gardner who is our product manager... and I hope that will be good for us."

Accolade was formed in 1985 but spent almost the first year of its existence hardly releasing a single product. Now they have fifteen on their list. "If you are going to spend nine or ten months on development and in the last six or eight weeks you're going to spend 18 hours a day, you better love what you are doing!" says Doctorow emphasising the committment and personal interest that on which Accolade insits in its programmers. "You better see that vision! If a guy has to call me and say 'Is this the right red?', I don't have time for that. You gotta believe! You gotta believe!... The paper's not blank when you start. It's up here!" He points to the brain. "We look for people who have the vision! That also assists us in having product that has vision. It's not just another shoot 'em up... something that's a little different... Like "Card Tricks" — it's a card game and there have been lots of card games... but none that we know of at least from the perspective of packaging people in the box — not just cards... this is a picture of the people at the table. You can pick the people. You can pick to play against Margaret Thatcher or Gorbachov or Reagan or a bunch of other people... There's personality... there's flavour..."

"People have been reading books for a long time... mysteries, spy thrillers, romances and they still do... I don't think that human nature changes much over time"

For Accolade, as for most people, the future is not very clear but Doctorow has some firm opinions on how it might develop. "The market is growing... The fear of computers is slowly, very slowly,

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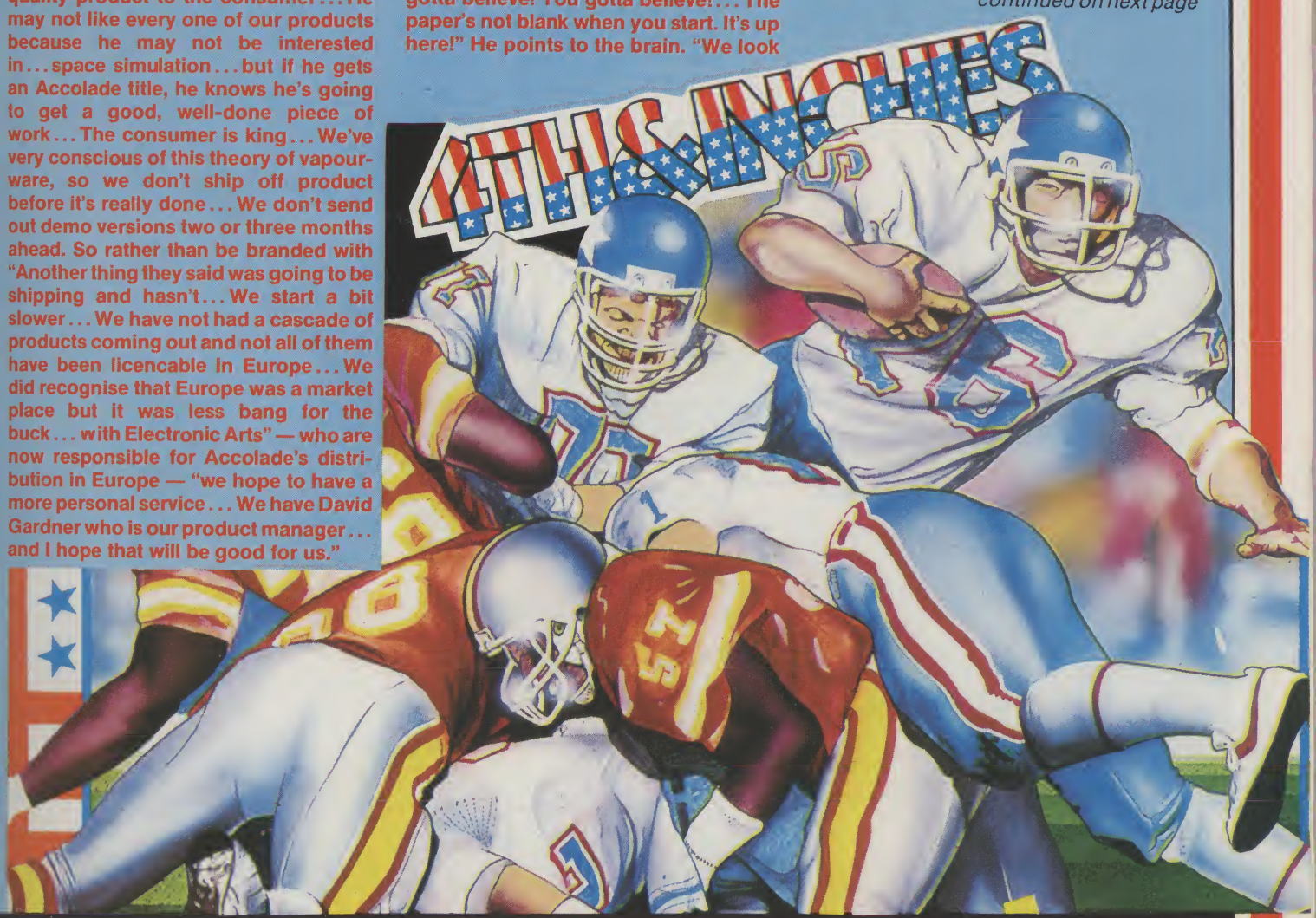

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disappearing. I think that there are not going to be drastic or radical changes in three years. There might be some CD Rom units. There might be some CDI units. I don't perceive that consumers are going to change radically from what they like doing. People have been readingbooks for a long time . . mysteries, spy thrillers, romances and they still do . . . I don't think that human nature changes much over time. There might be a blip every now and then and a spike that says "Space games are hotter than fantasy role playing games . . . " or "Sports games are great!" But people like the same themes! The U.S. market has for a long long time been moving toward passivity. With the advent of television, with the advent of larger and larger screen, TVs . . . and the stereo units that are coming down in price . . . people like to sit . . . Come home from work and you are tired. You don't want to talk to your husband. They don't want to hear the kids yelling. They want to watch TV. They want to be lulled to sleep at nine o'clock on the couch. As a consequence, the phrase 'Couch Potato' is well-known, understood in the U.S.

I think that one of the problems that computer manufactures face is to pull them out of the doldrums and get them into something interactive. They've got to actually sit and think. They've got to manipulate. They've got to hold a joystick or they've got to load a disk and they've got to type something and, every once in a while, they've got to type something again and that's interactivity! . . .

Most people like to watch sports on TV. Most people don't participate. They may fantasise about being a quarterback or a batter but in general they don't do it . . . There will be radical advances made in storage media. There will be changes made in graphic presentation technology . . . There will be changes in speeds of processing . . . There will be cycles of things that are more or less popular but I don't think there is going to be a noticable, a definable change in what the marketplace is . . . "

ACCOLADE

In the three years since Accolade was founded there have already been substantial changes in the technical depth of software and also in the aspirations of software buyers. They are influenced by what they see every day on TV and want to buy software, especially entertainment packages, that aims for that video-level standard.

"You need more and more and more experts in the field. You need artists. You need sound people. You need directors. You need producers . . . Scriptwriters . . . and it goes on and on and on . . . "

"If you look at "Defender of the Crown, the stuff is gorgeous!" applauds Doctorow generously. "Everybody want to do a Defender of the Crown. I don't know how deep and wonderful the experience is, but the effect is fabulous! Everyone wants to do "film". It's called Cinemaware — that's not an accident! And you have to if you want to compete. It gets more and more expensive to develop . . . It takes longer and longer time to develop . . . You need more and more and more experts in the field. You need artists. You need sound people. You need directors. You need producers . . . scriptwriters . . . and it goes on and on and on . . . And all that means the cost of development goes up and when the price of the product doesn't go up, it means the margin for the producer goes

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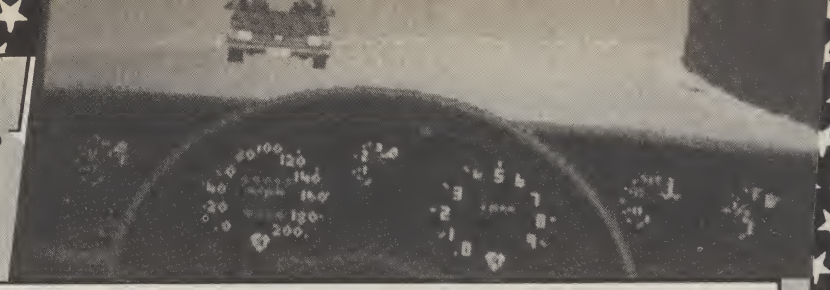

down... That means the little guys can't get in. So you may see more consolidation..." That picture of the growing cost of developing quality product precludes Accolade from venturing into the difficult budget market.

"We don't think the customer is stupid for long. So if you're in the business for the long run, you need to make decisions based on the long run. Could we make more money? 'Sure! Absolutely! Let's pump the stuff out! We'll just do product that will take two or three months! Why spend nine months when we could do it in three? Well, the reason is we don't want to go out of business in a year and a half..."

Accolade's games have not only acquired for them a reputation of quality but seem always to possess an extra charge of originality they are not licenced from coin-ops and other entertainment media which may be one reason on why the company can't be 'typecast'.

Doctorow points out that "Our feeling in general is that licensing from one media to another doesn't work... isn't effective. When they put out "Top Gun" as a game... It's a fabulous title but as a game... They sell well but..." He shakes his head wonderingly. "Image... We like to believe that we are going to do a dozen titles a year but they are not going to be licenced... they are not going to be someone else's name... You pay a fortune to have John Madden Football, Earl Weaver Baseball, Chuck Yeager Flight Simulator... if you can afford it but if you don't recover the money..." He shakes his head again as if saddened by the thought of all that cash investment not being profitable.

'Where do you put the money?'

In its first year of operation, Accolade managed to release just four titles. In 1986, it brought out eight. In 1987, ten. "We will continue to increase the numbers", says Doctorow. "But in a very controlled rate" They develop primarily in house with Bob Whitehead, one of he founders of the company and creator of Hardball still programming and responsible for Accolade's latest sports success the Awesome-rated '4th and Inches.' That was on the 64, Doctorow comments "The 64 is still as popular but the PC has overtaken it in one year. The 64 has not gone down in numbers but in market share... The Amiga is a very good machine, a very wonderful games machine but if the installed based in 150-200,000 you can't compare it with the PC or the 64 which has an installed base of seven or eight million. If you only sell ½% you sell 35,000... If the ST for example represents 2% of the marketplace and it costs the same for development, where do you put the money? In the 64."

"Our audience is a much older audience than my perception of others such as Epyx. Even about 25 or older...

"Every review we saw said it was great. For every reviewer to say that but for us to get the sales we did just doesn't make sense..."

"COMICS" was an enigma... a very, very well conceived product... Technically excellently conceived... a large product. A lot of work went into it. But it was in an area, in a genre, that wasn't particularly well understood by the mass audience. Every reivew we saw said it was great. For every reviewer to say that but for us to get the sales we did just doesn't make sense... Whether we were ineffective in our packaging, or in the title, or in the timing or the release of the product, I don't know... Had we changed the entire focus and called it "The Revenge of Steve Keen" or something. 'Wow!' Where can I get three copies?! But you live and learn... Our product is cerebral. It needs to be discussed. It needs to have a chance.. It doesn't always sell well immediately but sells for along time. But our products sell better and better and better... Hardball has been selling for over two years... Mean 18 is out over year... Ace of Aces over a year..."

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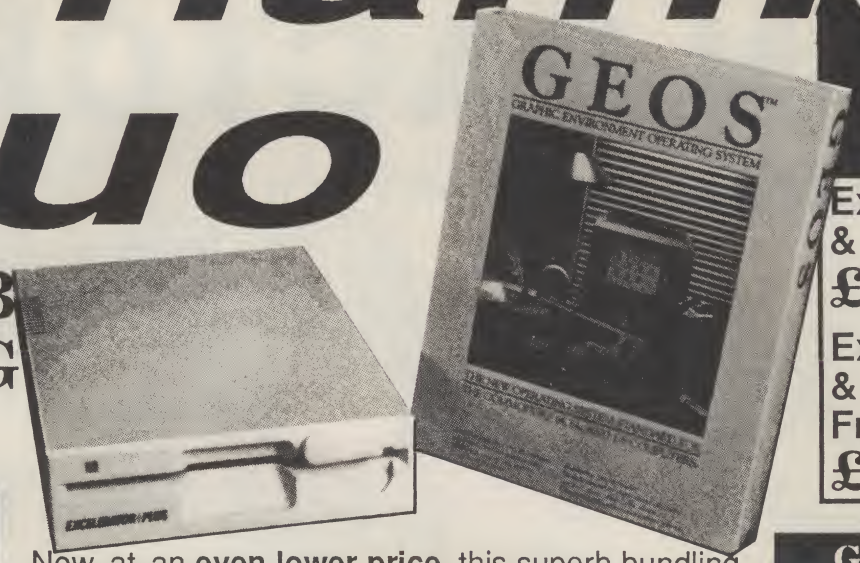

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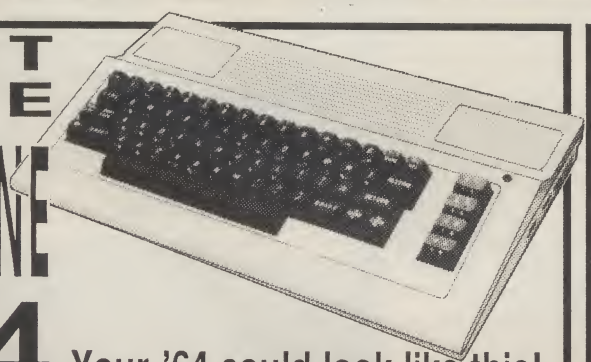

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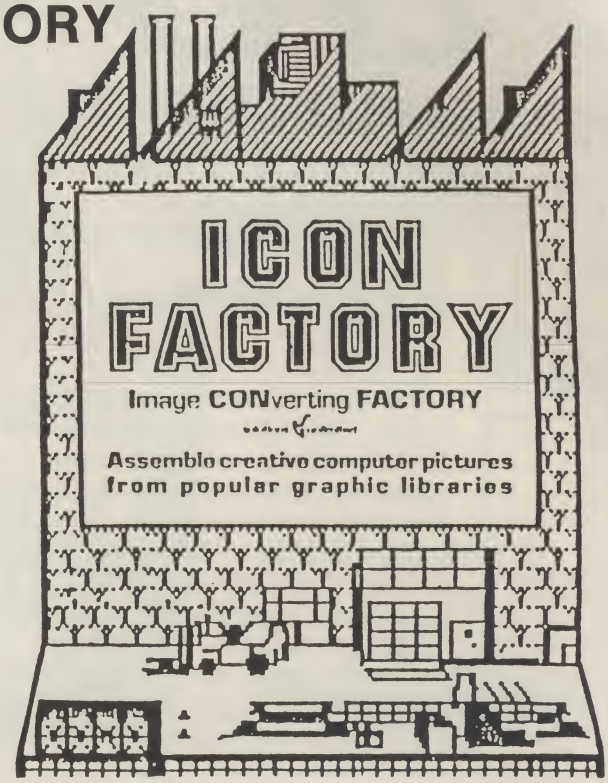

I have often thought that it would be a great idea to swap some of the clip art graphics from one package to another. Well you can now! A company from New York called SOLUTIONS UNLIMITED have created a program that lets you include a graphic image from one utility into that of another.

ICON FACTORY is the result of feedback from many unhappy Commodore 64/128 owners. Never before could you use your Print Master, Print Shop and Newsroom graphics outside their respective original programs. Now it is not only possible to use any of these three styles of graphics with any of the three mentioned programs, but it is also possible to use these three graphics with many other popular drawing utilities, including Doodle, Flexidraw, Computer Eyes, the Koala Pad, Supersketch, Animation Station, Blazing Paddles, and Billboard Maker.

"It teaches you some tricks such as the ability to create a shadow effect on your graphics to give an enhanced 3D image."

This program is now available in the U.K. from Solutions Unlimited. It comes in a neat package as one disk and very comprehensive operating manual. From my own experiences I have found I often wanted to mix Print Shop and Newsroom graphics together. You will always find that however many facilities your particular DTP system or drawing utility has, it is never enough. There are occasions when you discover that for one reason or another you wish that you could include one of your masterpieces into say Newsroom but cannot. Having come across ICON FACTORY I can now enjoy a huge clip art selection by mixing other graphics together.

Menu Driven

The program is menu driven and each facility can very easily be accessed by the use of the function and cursor keys. Further windows, which drop down, give you the many options available under that particular heading. The main options are to load or save graphics or pictures, you can even modify your images. Hi-res and multicolour screens are also catered for. When asking ICON FACTORY to load a picture it determines whether a file is a picture or a graphic by its directory block size. For instance, Doodle pictures are always saved as 37 blocks, long Koala pad are always 40 blocks, PrintMaster a PrintShop graphics, are always 3 blocks long. All these things and even more. I have sometimes wanted to enlarge, or reduce a particular image but previously have not had the ability to do so. Now I can, the image can be enlarged or even stretched over a segment of the screen. You are able also to overlay an image on top of another or cut it out over a background for example. One great thing to point out is a clever thing called the Optimiser which cleans up and smoothes out the round edges during the enlarging process.

There are so many possibilities and permutations that this package can perform that you need to use it to appreciate the very wide range it offers. The manual gives you two pages of hints to get you started, it teaches you some tricks such as the ability to create a shadow effect on your graphics to give an enhanced 3D image, plus many many more effects.

Even if you don't have the luxury of owning more than one DTP or drawing utility this program can create some marvellous effects to complement the one you have. Should you own a couple of the programs mentioned earlier then get this utility now! Mix and modify, swap and switch, ICON FACTORY has long been awaited in this country.

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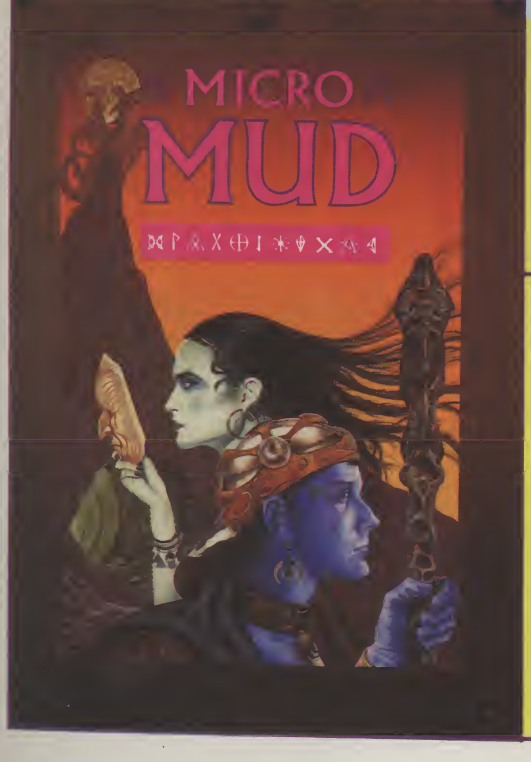

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Speech Synthesis

by John Iovine

In this article we will begin to apply what we learned in the last article (CCI February) with the practical application of synthesizing speech.

Speech synthesizers (or processors) appear in two main formats. One approach (format #1) uses digitally recorded speech stored in a ROM chip. The second approach (format #2) uses phonemes of English to construct words and sentences (a phoneme is a speech sound).

The main advantage in Format #1 is excellent speech reproduction and fidelity. Its main disadvantage is a limited vocabulary of English that has been preprogrammed into the chip.

Format #2's strength an unlimited user defined vocabulary. Its disadvantage is that the speech fidelity is not as good as with the preprogrammed speech ROM. Even so, the speech fidelity of format 2 is quite acceptable in all but the most critical circumstances. In this article, we are taking this second approach to speech synthesis.

The speech synthesizer we can build, plugs into and is powered by the user port. The cost is less than £25.00, and for that price it includes its own audio amplifier, filter, volume control and speaker. Since it has an unlimited vocabulary, you can program in any word you desire. You then have the option to either modify existing programs to include speech, or, of course, to write new programs with speech.

THE SPEECH CHIP

General Instruments Company manufactures the 28 pin speech synthesizer chip (SPO256-A12) that is distributed by Radio-Shack (Tandy). This chip can generate 59 allophones (speech sounds) and five pauses (no sound) of various lengths (see allophones table 1). By adding (concatenating) allophones together you can construct words and sentences. This may sound rather difficult at this point but it is not, the program does most of the work.

A LITTLE ON LINGUISTICS

An allophone is the computer equivalent to an English phoneme. There are two main points you should keep in mind when programming words. First, in English there is not a one to one correspondence between letters and sounds. This point is amply demonstrated by the younger members of our society who are learning to read and write. They are likely to spell cat as *kat* and phone as *fone,* imitating in writing the way the words are pronounced. This is a very interesting point, because in order to program words to sound correct, you must spell the words phonetically. More about this later, let us continue on to the second point.

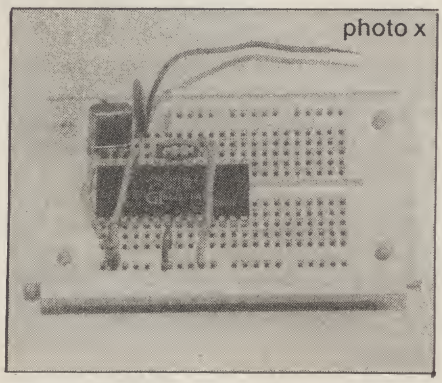
Placement of a speech sound in a word can change the pronunciation. As an example, take a look at the two *D* letters in the word depend. The D's are pronounced differently. If we were to program this word using our table of allophones, the allophone DD2 would sound correct in the first position (*d*epend) and the allophone DD1 sounds correct in the second position (depen*d*). We will return to programming technique later on. A booklet with more information on linguistics, allophones and usage is included with the speech synthesizer chip.

CIRCUIT CONSTRUCTION

The circuit comprises two sections (see figure 1), separated by a dotted line. Section A on the left is the basic circuit. Section B contains the amplifier, low-pass filter, volume control and speaker added to the basic circuit.

The two sections A and B make up the entire circuit, which is a stand alone unit, meaning it requires only control signals from the user port to function; in contrast to section A circuit, which requires the use of the SID chip and a monitor or TV speaker.

By utilizing the SID chip in the Com-64 or Com-128 computer, you can eliminate section B, the audio amp., filter, volume control and speaker; thereby reducing the amount of parts required

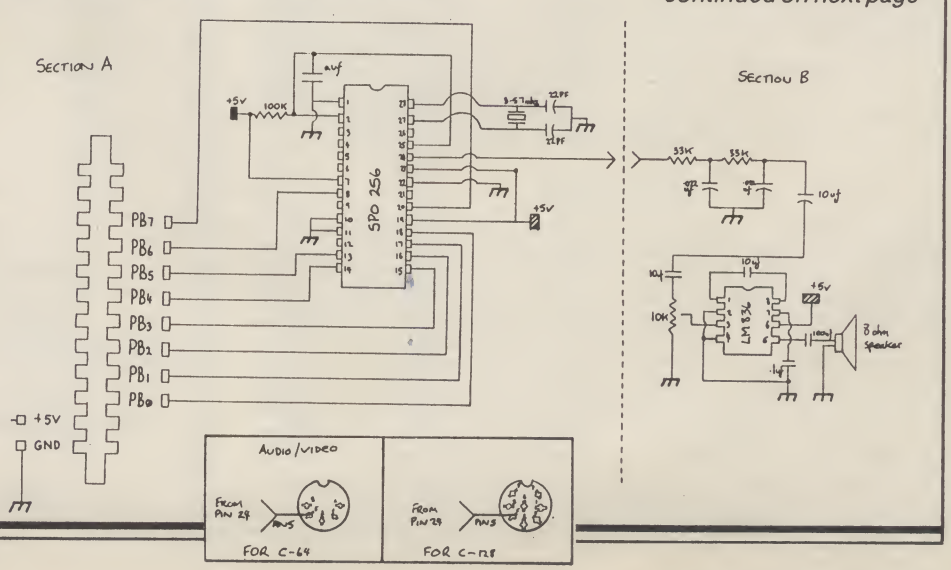


by more than half, simplifying the circuit and saving some money. However, if you are using a Vic-20 computer you will have to build the entire circuit.

The Com-64 and C-128 can use either section A or the entire circuit. To use just section A we eliminated section B and take the output of the circuit (at pin 24, see circuit dia) and input the signal to the SID chip. We accomplish this with a wire to the "audio in" pin of the composite video connector (see pin 5 of the C-64 and C-128). Pin 24 is the digital output of the screen synthesizer chip. You can purchase the correct Din plug for your computer or use a short wire pushed into the correct pin socket connected by a jumper wire to pin 24. You can use our experimenters bread board for this circuit. See photo x. Plug in your components as diagrammed and you are ready to begin programming.

For the Vic-20 I constructed the entire circuit on a modified experimentors card. The card is modified by cutting the end terminals on both sides leaving the center 12 positions. Use a 12/24 card connector and solder

continued on next page



Speech Synthesis

continued

the lugs on the connector to the fingers on the board. If a 12/24 card connector is not readily available you can modify a 22 position card connector into a 12 position connector by cutting off 10 positions off as I have done. (See photo xx) Only 10 connections are needed for this project, I did however solder all the connections to improve the mechanical strength of the unit. Pin 24 is connected into the B section circuit to a low pass audio filter to a 10K volume control pot. Use either a trimmer pot that you can set once and forget about or eliminate the pot completely. The volume of sound with the pot removed isn't so great as to be objectionable. You will probably use the speech syn., with the pot fully closed anyway.

Power for the entire unit is provided from the top side of the user port (see diagram). The bottom side (port B) accesses and controls the speech processor. If in wiring you get confused tracing the leads from the user port to the speech chip, I suggest holding the card connector (or experimentors board) to the diagram of the user port (see photo). This will help match where each wire connects. The diagram of the user port can be used this way because it shows how the user port appears when looking directly into it from the back. When completed the card connector plugs into the user port (see photo).

photo

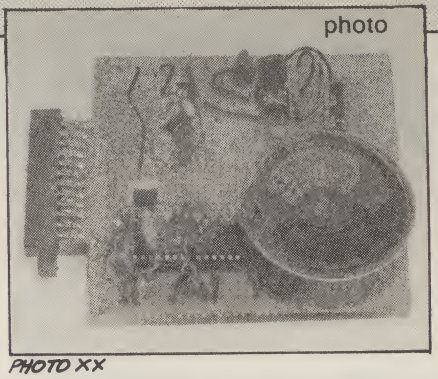


PHOTO XX

The manufacturer of the speech chip recommends using a 3.12 MHZ crystal at pins 27 and 28. I recommend using a 3.57 MHZ color burst crystal instead. The reason is cost and availability. The 3.57 MHZ color burst crystal is approximately one quarter the cost of the 3.12 MHZ crystal, and is more readily available. This change will increase the timbre of the speech slightly, but has no other effect on circuit operation.

THE PROGRAM

Type in the program as shown. Assign a value to 'PB" in line 60 depending on which computer you are using.
For the Vic-20: PB=37136
For the C-64: PB=56577
For the C-128: PB=56577

INSERT PROGRAM

If you are using a C-64 or C-128 with circuit #1, type in this additional line;

```
55 S=54272:FORL=0to24:POKES+L,0:NEXT:POKES+24,15
```

When the program is run, the computer should say hello. Adjust the trimmer pot if you built the entire circuit, and have included the pot in the circuit.

If the computer fails to speak you have either a typing error in the program or a wiring error in the circuit. Check over the program to see that you entered it correctly. Recheck your wiring. If everything checks out OK, verify circuit operation by checking for clock pulses at pins 27, 28 and 24. If you show pulses the problem is in the audio section.

Although it is not necessary to understand how the program operates to use it. A brief description follows.
STEP 1 Lines 60 to 100: Sets up Data Direction Register and allophone table
STEP 2 Lines 150 to 157: Speech Module — reads speech in program
STEP 3 Lines 10000 to 10065: Subroutine sends instructions to speech chip and returns.

Until you gain some experience and feel comfortable designing your own speech program. STEP 2, lines 150 to 157 is the model to use to program. We will do a line by line analysis and an example will insure a good understanding of the procedure.
Line 151 Is a REM statement labeling the word or phrase contained in the following data statements. This is useful in the event you wish to correct, change or eliminate words. By clear labeling you can locate the word quickly.
Line 152 Data statement; containing allophones for the word hello.
Line 153 Counting line; enabling the

TABLE 1

Allophones

Decimal Address	Allophone	Sample Word	Duration	Decimal Address	Allophone	Sample Word	Duration
0	PA1	Pause	10MS	32	AW	Out	370MS
1	PA2	Pause	30MS	33	DD2	Do	160MS
2	PA3	Pause	50MS	34	GG3	Wig	140MS
3	PA4	Pause	100MS	35	VV	Vest	190MS
4	PA5	Pause	200Ms	36	GG1	Got	80MS
5	OY	Boy	420MS	37	SH	Ship	160MS
6	AY	Sky	260MS	38	ZH	Azure	190MS
7	EH	End	70MS	39	RR2	Brain	120MS
8	KK3	Comb	120MS	40	FF	Food	150MS
9	PP	Pow	210MS	41	KK2	Sky	190MS
10	JH	Dodge	140MS	42	KK1	Can't	160MS
11	NN1	Thin	140MS	43	ZZ	Zoo	210MS
12	IH	Sit	70MS	44	NG	Anchor	220MS
13	TT2	To	140MS	45	LL	Lake	110MS
14	RR1	Rural	170MS	46	WW	Wool	180MS
15	AX	Succeed	70MS	47	XR	Repair	360MS
16	MM	Milk	180MS	48	WH	Whig	200MS
17	TT1	Part	100MS	49	YY1	Yes	130MS
18	DH1	They	290MS	50	CH	Church	190MS
19	IY	See	250MS	51	ER1	Fir	160MS
20	EY	Beige	280MS	52	ER2	Fir	300MS
21	DD1	Could	70MS	53	OW	Beau	240MS
22	UW1	To	100MS	54	DH2	They	240MS
23	AO	Aught	100MS	55	SS	Vest	90MS
24	AA	Hot	100MS	56	NN2	No	190MS
25	YY2	Yes	180MS	57	HH2	Noe	180MS
26	AE	Hat	120MS	58	OR	Store	330MS
27	HH1	He	130MS	59	AR	Alarm	290MS
28	BB1	Business	80MS	60	YR	Clear	350MS
29	TH	Thin	180MS	61	GG2	Guest	40MS
30	UH	Book	100MS	62	EL	Saddle	190MS
31	UW2	Food	260MS	63	BB2	Business	50MS

Duration is in Milliseconds

continued on page 32

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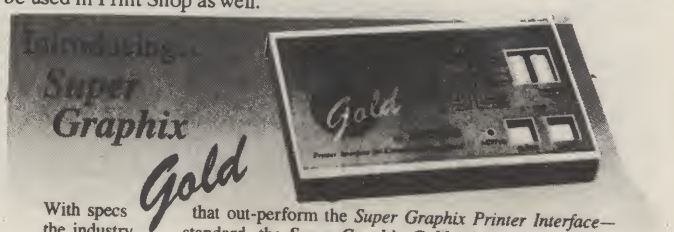

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Speech Synthesis

continued

computer to read the proper number of allophones in the data statement then jump to the end of the speech module upon completion. G=(number of allophones)+1. Therefore if our word uses 6 allophones then G=7. If a sentence uses 31 allophones, then G=32.

Line 154 Reads allophones in data statement.

Line 155 Takes data read; jumps to subroutine line 10000. There computer compares to table, decodes and provides necessary electrical pulses to the speech chip; returns.

Line 156 Return program to counting; incrementing G; reading the next allophone. Process is repeated until G equals its assigned value.

Line 157 Line number called in line 153, (then 157) — Resets G to 0, enabling G to be used again in other modules of the program.

EXAMPLE

The booklet provided with the chip has a dictionary with over 200 words, with their proper allophone data. These words can be put into your program at once. Some of the words included are:

1. numbers 0 to million
2. days of the week
3. months
4. letters
5. common words

For our example we will construct a sentence concatenating 4 words and entering it in our program.

```
200 Rem See You Next Tuesday
201 Data SS,SS,IY,PA1
202 Data YY1,UW1,PA1
203 Data NN1,EH,KK1,SS,TT2,PA1
204 Data PA1,TT2,UW2,ZZ,PA2,
        DD2,EY,PA1
```

The REM statement describes what is contained in the following data statements. You can use or start with any line number you'd like, just remember to be consistent.

```
205 Let G=G+1: If G=22 Then 225
```

Count the allophones in the above data statements. You should count 21 allophones. Since G=(# of allophones)+1 therefore G=22. Note line number 225 call out (Then 225) in this line, it marks the end of the speech module. You can easily predict this number since it is always 4 lines down from this line.

```
210 Read A$
```

Reads allophone in data statement.

```
215 GoSub 10000
```

Program goes to subroutine at line 10000.

```
220 GOTO 205
```

When program returns from subroutine this line returns program to line 205 the counting line. G is incremented, next alophone is read, until G equals its assigned value.

```
225 G=0
```

This is the line called when G reaches its assign value. This line resets G to 0 so it can be used again for other speech modules.

The allophone table correlates each allophone with its approximate sound. This table is essential for programming words that are not in the provided dictionary. Please be aware that there are a few typographical errors in the dictionary. Such as in the following words:

Hello———HH,EH,LL,AX,OW,AW,ER1 and

Computer———KK1,AX,MM,PP1,YY1, UW1,TT2,ER

In the word hello; the first allophone hh does not exist in the table. You should use HH1, or the word will sound like ello. In the word computer; the last allophone er does not exist. You must use ER1 or the word will sound like compute not computer.

Therefore if you use a word from the dictionary that does not sound correct, first check the allophones to see if there is a typo.

Always end a word or phrase with one of the pauses PA1 to PA5. This is necessary to stop the computer from enunciating the last allophone.

BASIC CRUNCH

Basic can run the speech processor, but it is a little slow. One of the easiest ways to bring basic up to speed is to use multiple statement lines and eliminate all unnecessary REM's. Effective programming has been known to help also. Experiment by crunching the program as much as possible. I would do this one step at a time or you stand a good chance of crashing.

Machine language is very quick and ideal to use with the circuit. If you're a machine language programmer here is a great opportunity to test your mettle. I advise running a ML wedge and implementing a new basic command such as "say" or "speak" that would completely eliminate all basic programming.

A good inbetween program could be implemented using a jump search routine for the data comparison after the data read. This is the most time consuming portion of our program.

CONCLUSION

You now have the tools you need to program speech. To utilize the basic program into an existing program or to help organizing into a new program think of the program as existing in three distinct modules; the data table, speech module and speech routine. Set up the data table before it will be used by the program. Put the subroutine for speech near the end of the program. The speech modules are placed anywhere in between where you want the computer to speak.

Examine the speech routine section of the program, with the knowledge and information given in the last chapter you should be able to figure out how this program is operating. If you have any problem you may want to place your LED interface at the user port and run speech synthesizer program to observe the controlling bits, it will definitely help.

What has been written in this installment are the bare essentials. Feel free to experiment and develop your own programs.

For those of you who are more adventurous, Radio-Shack sells a companion chip that is an ASCII text to speech converter. Practical applications for the chip are a text reader or verbal modem.

Parts List

Quan	Item	Part Number	Cost
1	SP0256-AL2	276-1784	$12.95
1	LM386	276-1731	1.09
1	100K 1/4 watt	271-1311	$ .39
2	33K 1/4 watt	271-1341	$ .39
3	.1 UF Cap	272-135 20@	$ .49
2	.022 UF Cap	272-1066	$ .69
2	22Pf Cap		
2	100 UF Cap	272-1016 2@	$ .79
1	10K Trimmer Pot	271-335	$ .49
1	8 ohm speaker	40-245	$ 1.89
1	1 UF Cap	272-996	$ .79
1	10 UF Cap	272-999	$ .99
1	Experimentors Board	276-168	$ 1.95
1	Card Connector 12/24 or Mod.	276-1551	$ 2.99
1	3.57 MHz Crystal	272-1310	$ 1.69

All parts should be available from Radio-Shack (Tandy) stores.

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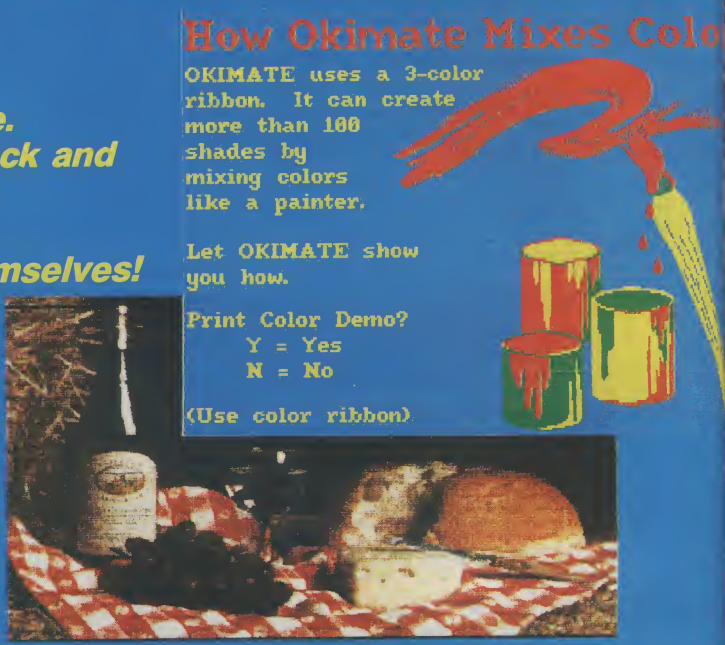

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SIDEWINDER

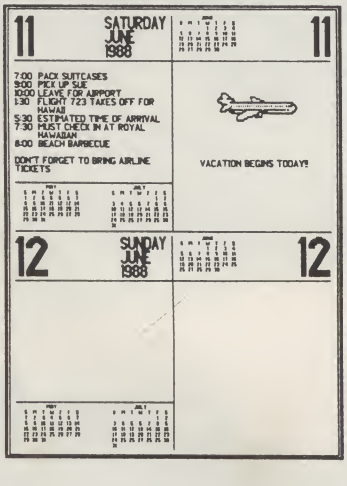
Only the Amiga makes it possible!

CREATE A CALENDAR

Epyx

Among the many features available to Amiga users, is the concept of "clip art". This is where a small graphical image created by one application may be transported across and used in an entirely different application. Naturally, the programming mechanism for doing this is not for the faint of heart and there is a requirement for the graphical data to be in some kind of standard format. This means that fonts which are regarded as graphical images and iconic images are often manipulated in this way. The benefit here being that the range of images, fonts, etc., is limited only by your own imagination.

The CREATE A CALENDAR software for the 64/128 from Epyx operates on much the same principle. In this instance, the basic application allows you to enter pre-defined images into a calendar before printing. However, it should be appreciated that this is a very simplified explanation of what the CREATE A CALENDAR product can achieve. The hardware requirements are: C-64 or C-128. 1541 or 1571 disk drive. Commodore dot-matrix printer (or Centronics-parallel printer with facilities to produce bit-map images.)



CREATE A CALENDAR operates in the C-64 mode of the C-128 and will take advantage of an Epyx FAST LOAD CARTRIDGE if one is present. The software is supplied on a single 1541 format "flippy" with a 17 page manual.

Calendars come in many shapes and sizes. CREATE A CALENDAR offers you a total of six different types. These are:

MONTHLY *— A full month is printed on an 8.50-inch by 11.0-inch (letter-size) page.*

WEEKLY *— A single week is printed vertically on a letter-size page.*

DAILY *— A single day is printed in half letter-size. This allows for 2 days per page.*

ANNUAL *— A full year is printed on a letter-size page.*

BANNER *— A full year is printed horizontally over 6 pages for a year-at-a-glance.*

EVENTS LIST *— A list (not a calendar) of all events entered on your current calendar.*

CREATE A CALENDAR is operated through the selection of an item from a simple box menu using the cursor keys. The technique is made foolproof by robuts programming and backtracking of a command is intuitively made by use of the ESC key. One time-saving aspect of the manu-selection process is that any keyboard input is saved to a buffer and can be re-used without the need to retype. In other words, if you decide to switch from creating an annual calendar to a banner calendar then any text or graphical data will be automatically transferred to the new format.

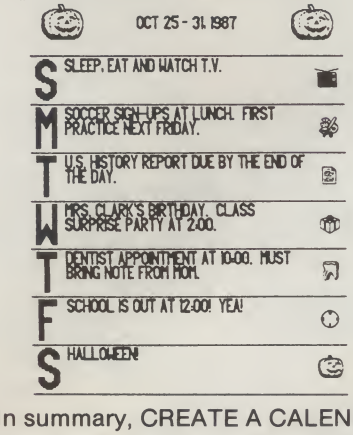
The main menu offers the option of starting a new calendar, reloading an existing calendar or continuing work on the current calendar in memory.

"A novel feature of using the menu structure in CREATE A CALENDAR is the provision of a limited form of on-line help."

The final option is to use some disk utilities, such copying, renaming files or changing disk drives. A novel feature of using the menu structure in CREATE A CALENDAR is the provision of a limited form of on-line help. This is done by giving two lines of explanation of your intended selection. Pressing CTRL-Q will return always return you to the main menu. Some techniques here which many applications programmers would do well to emulate.

The starting a new calendar option will operate between the years of 1753 and 9999 — there seems to be little likelihood of any complaints regarding a range of this magnitude, although starting at 1753 seems odd. At this point, you have the option of filling your calendar with graphical images stored on the reverse side of the master disk or calling in your own pre-defined images. The latter can be invoked from a second drive since CREATE A CALENDAR supports an additional drive. Unfortunately, the action of creating a calendar for an complete year demands an entire disk (the manual fails to specify which format, it is in fact, a 1541 170K disk). The need for some form of life compression seems rather obvious (Epyx — take note).

You can add a border to your calendar as well as a credit line if you feel the need to bask in a little glory! Five fonts (typestyles) are available, although there are no facilities to edit these. The same applied to the graphic images and this does mean some limitations on what you can do with CREATE A CALENDAR. However, these limitations are addressed in two ways — the first is the inclusion of a very large number of "clip-art" graphical images. The second manner in which this software tackles the problem is by the provision of facilities to import graphical data files from the very popular "PRINT SHOP". Indeed, any file conforming to the data structure of PRINT SHOP can be imported. Epyx also provide additional graphics disks containing further ranges of images.



In summary, CREATE A CALENDAR is good as far as it goes. I would have liked to have seen the inclusion of an editor for the images — no great feat of programming would be necessary for this. Perhaps by not supplying an editor Epyx are hoping that this will induce users to purchase the "Graphics Scrapbook" series of disks. Two other suggestions for Epyx — allow the software to take advantage of any RAM expansion in either C-64 or C-128 mode, and give us an 80-column version for C-128 users. I feel that these two coupled with the editor would provide a very powerful tool and would certainly broaden the scope of the product's market appeal.

Price: $39.95 ***B.D.***

Datasette Doctor

Trilogic

Datasette Doctor is the latest 'Preventative Maintenance' kit to be released by Trilogic. It's purpose is to provide service and diagnostic facilities for Commodore Datasettes. The kit comprises of a tape demagnetiser and cleaner (with fluid), a screwdriver for small screws, a calibration scale and a cassette of software. The cassette demagnetiser and cleaner are of a standard type and are the same type that can be purchased for audio equipment. However, these form only a minor part of the kit for it is the software and screwdriver that form the backbone of the doctor feature.

The software consists of three programs a Low and High Baud rate test and a High Baud Rate Load/Save Test. These are used along with the calibration scale and screwdriver to check and re-align, if necessary, the tape heads. The calibration scale consists of an arrow, which is attached to the screwdriver and a scale which is fastened to the cassette drive heads. The first two programs are used in the same way. After loading and running the program a test signal is received. The signal is then used to display a screen colour which indicates whether or not the signal is being received at the correct level. A red colour shows bad reception while a green colour shows acceptable reception. Shades of green are used to show an improvement when the screwdriver is used to move the read head. The two Baud Rates are used to test normal loading and that of Turbo loaders that have become standard for commercial software.

The High Speed Saving/Loading Test is used in the same way as the other two programs. In this case however, the test program is firstly saved to your own cassette and subsequently read back to test the drive. The results of the test can show a faulty or worn mechanism, poor quality tape, TV/Mains interference and fault datasette electronics.

Full instructions are provided with the kit which costs £8.99. Although, in the information supplied the standard Commodore Datasette is quoted and the instructions are only concerned with this unit, it is possible to use it on other datasettes. The procedure was carried out using the original Commodore Datasette supplied with the early PET machines and both are screwdriver and software proved adequate for this unit also.

At £8.99 the kit represents good value, as the demagnetiser and cleaner would cost around £3 in audio shops. In addition you could well expect to spend the standard £9.95 on just the software alone.

Contact: Trilogic, Unit 1, 253 New Works Road, Low Moon, Bradford BD12 0QP. Tel: 0274 691115.

DISC DISECTOR

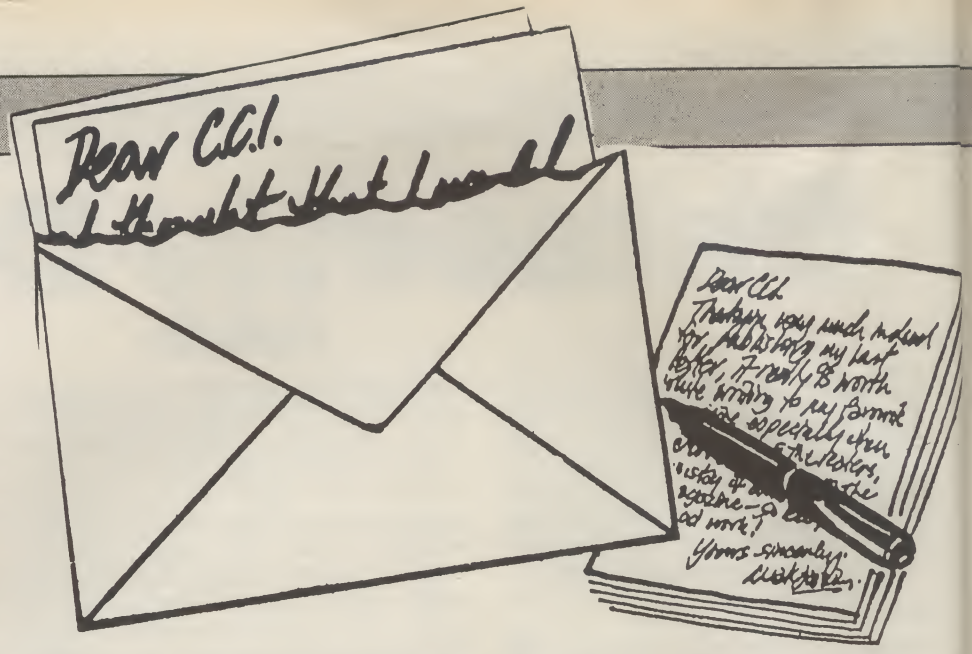
There are more utilities for making life easy when working with the CBM range of drives than any other. Disc-Disector is a collection of utilities, that is the latest version are compatible with the C128 and 1570 range. This set of programs started life as a tape to disk transfer system, and an updated version of that program is included titled "DISCO" and it does work very well. The program is a has various menus that are displayed very nicely, and the fast load routines caused no problems at all when used with the 1571 drives and a C128 (in C64 mode) the menus appeared within a few seconds.

The main set of utilities are for disk copying and consist of two main nibblers, the 8 minute and 3 minute versions The 8 minute is the more powerful but you pay in terms of time. The 3 minute nibbler is used with parameters, of which a selection is provided on the disk. Both nibblers work very well and are easy to use, not the fastest that I have seen, but still very effective. A two drive nibbler is also provided. The next set of programs on the menu are the basic disk maintenance operations that you would expect, such as file copy, format, rename, scratch etc. All these programs load very quickly and as they are menu driven they do take the effort out of disk operations.

Next comes a selection of disk "rescue" programs, the most powerful is a full disk monitor, but there is a lack of documentation about it. Programs such as Bam allocation, directory change, recover scratched files etc. Utilities to sort the directory and index the directory with start address, start sector/track end address and date, however this program does take some time to run. Finally there are a few odd programs that allow the transfer of "novaload" tapes, a faster two drive backup and a system of creating Disc-Disector type menus on your own disk.

As I would expect, all the programs do work and seem to be very well behaved. I have one very big complaint about Disc-Disector, and that is the level of documentation. True most things are very easy BUT... a few examples would help the beginner. The total documentation is less than two side of A4!, some basic information on using the disk monitor would be useful. This package offers a very good source of backup/disk utilities that will benefit most users. It is ideal for the newcomer to disks as it does have just about everything that you could want, it would have saved me a lot of heartache in the early days when I scrubbed off a few files by accident! Very good value for money.

A.E.



Dear CCI
First of all I would like to congratulate you on your excellent magazine —C.C.I.

Having said this, I am very surprised at the WRITE-UP of the S.F. book 'ALBATROSS' by your Zack Mule Skinner, which I assume you must have O.K.'d, for it to be printed!

He was, and rightly so complimentary of the book itself — but is absolutely WRONG in his assumption that the Book was written for a Youngish Reader aged between 11 and 12! I can assure you that it can be read and thoroughly enjoyed by people of all ages!

When I saw the lovely Full Page Advertisement for the book 'ALBATROSS' in your January issue, I immediately ORDERED it — I was so pleasantly surprised at the good quality of the book and liked the way it was presented with all the beautiful illustrations and drawings, which brought the story to life, I thoroughly enjoyed reading it, and knew that three of my friends would enjoy it too, I then ordered a further three copies, which arrived PROMPTLY, my friends and I are between the ages of 45 to 59 — I come somewhere in between and we all enjoyed reading this unusual S.F. book, which gave me so much pleasure, we therefore all disagree with your Mr. Skinner that the book (in his opinion) was written for a youngish reader of say between 11 and 12 years old! Also that again in his opinion, the book resembles, or as he says: "has strong elements" of the story of 'Alice in Wonderland' — we beg to differ — as 'ALBATROSS' is NOTHING like the absurd story of 'Alice in Wonderland' NOT EVEN REMOTELY SO! Also the name of the young girl in the story 'Allie' is *not* short for Alice — it is short for 'ALBATROSS' — my goodness where is Mr. Skinners imagination!

Sorry again, Mr. Skinner — but the book is absolutely FINE as it is written and does *NOT* need as he says 'Stronger Editing'!

Yes, and yet again my friends and I disagree with your Mr. Skinner — who says that the book lacks EXCITEMENT and innovation! — FAR FROM IT, — as an avid S.F. reader I found it very exciting and full of surprises and beautifully written and I LOVED the BRILLIANT ILLUSTRATIONS complementing the story, and giving the reader a VISUAL PICTURE OF THE STORY-LINE throughout this exciting book — hope other S.F. AUTHORS follow RICO GUSMAN'S and KIRK DUNCAN's idea of illustrating so well their books. Obviously 'RICO GUSMAN' who is the ILLUSTRATOR of 'ALBATROSS' has a BRILLIANT FUTURE!

As I have said, I am in my mid 50's but NOT in my second childhood! I hasten to add! Enjoyed this book so much, that I and my friends hope that the authors will write a sequel! At last, I do AGREE with your Mr. Skinner that at only £3.95 the book is excellent value!

I sincerely hope you will *PRINT* my WRITE-UP of 'ALBATROSS' as with due respects to Mr. Zack Mule Skinner, his write-up did not give the book the right credit it deserves.

This book can be enjoyed by people of ALL AGES!
Yours sincerely,
Mrs. Anne Marie Saint-John, Kent.

Dear Anne Marie,
One man's (or woman's) Albatross is not another man's (or women's) cup of tea — to adapt a phrase used in another reader's letter. Zack Skinner sticks to his judgement but to show how much we liked the illustrations to Albatross, we have the very same Rico Gusman doing artwork for CCI now!

Dear CCI
I'm pleased to note your June '84 article, "Sight for a C64", sent to me by our "agent of a foreign power," Mr. Keith Moody, of South Humberside. First I'll compliment him for the "MI-5" work of intelligence-gathering; then I'll shoot him for finding it so late!

It happens that we make and sell a low-cost (or "cheap," as you British bluntly put it) system which works in many ways like that described in said article. The two big differences are that:
1) We use the "User Port" for a greater dynamic range of scene brightness-theoretically up to 32768 counts that the array allows VS. 0-255 which I presume is permitted by the joystick port configuration in the article. And
2) Our present scheme utilises an ancilliary mechanical typewriter as the scanning platform, the photo being scanned across the width with repeated space-bar actuations, rather than in a vertical column using line feed signals.

I confess I prefer your article's method for scanning, since it is somewhat more completely "automatic", in relieving the boredom of the user's having to keep hitting the typewriter space bar.

I further confess that since I appreciate the idea so much, and in order to offset the technological piracy that the United States experiences from, say, Japan, I fully intend to adapt the printer-scanning scheme to our system at earliest convenience. Touché! But needless to say (so of course I'll say it), the varieties of programming approaches being what they are, even your author wouldn't be able to recognise the program once we have adapted the concept.

We have a "free update until 1990" policy on our programs, so our customers will be able to enjoy the benefits of anything we add to our ongoing disk for only the cost of return postage.

Can make seven size reductions, enabling the user to make photo lables and "pseudo-stamps," complete with a "perforation" pattern surround, as well as page-size printouts in an assortment of "fonts" including a "paint-by-numbers" options which should be a delight for the younger set.

Your readers can obtain more information direct from me for the equivalent of return postage (one ounce) or our aforesaid agent can be contacted for demonstrations, etc., at the following address: Keith L. Moody, 341 Burringham Road, Scunthorpe, South Humberside DN17 2BJ (England)
Cordially,
Ben Johnson (not the rare one, but working on it!)
President, Kaltek Labs, Puerto Rico.

Dear Ben
1984? That's back in the antideluvian era! Still we know some readers have been faithful to us that long and might be greatful for the information.
P.S. Peuto Rico is a stunning place that's why CBM hold conferences there!

Dear CCI
I am hoping you can help me with a query. I am thinking of buying a computer, I am thinking of a C16 or Plus 4, I have written to Commodore all I got after about 4 months was they were no longer made.

Could you give me any info on these

two machines I have a B&W 12" TV, are the above expandable, what programs are around, any info would be most helpful . I have the chance of a C16 at £30 and there is a Plus 4 package deal at £79.95.
Yours faithfully,
Mr A.J. Darby, Surrey

Dear A.J. Darby,
Our advice is don't. There is nothing wrong with either the Plus 4 or C16 but they like all computers are only as good as the software for them. Software manufacturers are simply not writing new programs for them. So they are not machines with which you can move for forward. Some up and buy a 64 . . . or an Amiga!

Dear CCI
I am both delighted and unhappy — if its possible that is. Perhaps I should explain: I have just read the letter page of the April issue of CCI. Contained within these pages is a letter from D.P. Whiteside of Rochdale offering a programming course. Wonderful. It has taken the wind out of my sails somewhat, though. This is why I'm unhappy. Over the last three weeks I've been researching why people shell out close on £300 — and sometimes more for something they know very little about. What is even more staggering is that they rarely actively learn about programming. Anyhow that was what I was going to write about.

Now I can't, not really as Mr. Whiteside has blown the subject apart. Never mind, perhaps I'll come up with another originalish idea in another 3 years.

While I'm here I might as well add a few comments: CCI is one of three magazines I buy each month on the subject of computing and I can honestly say it isn't the best, nor for that matter is it the worst.

Each of the three magazines has a different approach to the world of computing and each does its job perfectly. So I wish the staff and readers of one magazine would stop criticising the other, after all one man's meat is another man's cup of tea — something like that anyhow!
Yours sincerely,
Andy Proctor, W. Yorks.

Dear Andy,
"... isn't the best ... not ... the worst.. We're overwhelmed with such adoration...

Yes, we do believe our approach is different to any other magazie — and we believe that criticism can be helpful!

Even if we're criticising or being criticised ourselves. Our approach is to treat the reader as an intelligent human being not just as a peripheral of a computer. If you look at other magazines that may appear to be our original thought — perhaps we will one day have another!

Dear CCI
I am a 67 year old pensioner and took up commodore computing 3 years ago. The enclosed picture was drawn with a mouse and advanced art studio disk.

I wondered if it was good enough to be printed in our commodore magazine. I have the original printed out in full colour on disk. I thought it might help other pensioners to while away there retirement. Thanking you for your co-operation.
Yours sincerely,
Ms. F.J. Huges, Lincs.

Dear F.J. Huges
Last month an eight year old reader now one of 67! We do have a wide readership don't we! Thanks for the picture. Super Felix thinks it's great.

Dear CCI
I have just received the copy of EOA's Test Drive (C64) that I won in the EOA competition. I was pleasantly surprised, as I did not know that I had won a prize (CCI arrives 4 weeks late, in Malta). Thank you for setting a reasonable deadline for the entries that allows foreign readers to participate. (No other C64 mag does!)

I am upgrading to an Amiga, soon and I have not decided whether to continue getting CCI or switching to Amiga User International (AUI), especially as the latter is not yet being sold in Malta. How much would 2 issues of AUI cost (I'd like to see the mag before subscribing to one of them (AUI or CCI?)

Is AUI more business-orientated than CCI, or has it got the same mixture of games/business software/hardware reviews, and an adventure column as CCI? In the latter case I would certainly subscribe to AUI!

The following are my suggestions to improve CCI:—
a) Games reviews: the ratings (Mega, Awesome etc) should be decided by a panel of 2-3 reviewers, thus ruling out personal bias. Amiga games should be given ratings (those published in the Jan/Feb CCI's was not rated).
b) Adventure section: I think that ratings should be given for atmosphere; language (i.e. Parser); puzzles (are they logical, or do they require luck to solve?) as well as overall. Hints; I think that it would be rotten to give, say, one hint for 6-8 games in each issue, rather than a number of tips for 1 game.
c) Book reviews: how about revieweing some of the 'programming' books for the Amiga?
d) The rest of CCI (except Super Felix): excellent. Keep it up.

I have noticed that so far there have not been any reviews of games for the A500 which were connected from the C64, such as Bard's Tale 1, Winker/-Would/California games, etc. Do such conversions use the Amiga's capabilities to the full?

There has been mention of a C64 conversion for the Amiga. How about reviewing it?

C64 classics that should do well if converted to the Amiga include: Impossible Mission 1 & 2; Summer Games 2, Elite, Match Day 2; among others.Which of these are being converted?
Thank you
Yours faithfully,
Mr. Franklin Polidano, Malta.

Dear Franklin,
You will see the subscription costs for Amiga User International Magazine on the appropriate page in this issue. AUI is not so much business as 'serious' in its orientation. Though it has about one quarter of its editorial matter as games. It is now on sale in Malta.

Our games reviews are never solely one person's view, though generally written by only one reviewer. We don't always include ratings where we don't think useful i.e. in simulations. We reguarly review 'programming' books. And most of the 64 games you mention have already been converted to the Amiga. Don't like Super Felix? You are not the only one!

Dear CCI
I have been reading CCI for about a year and a half now and I am very pleased I found it. You see, I'm a very happy owner of CBM plus/4 and when I got it for Christmas in 1985, I went setting about finding an adequate magazine to get, so I could learn more about my new micro. My first choice was Commodore User although I was a bit disappointed as it dominated its best pages to the C64. "Oh, well," I thought, "it's got some plus/4 stuff in it."

I continued to buy it for the next 7 months, and then one day I found a bright pink magazine, with Commodore in great, big yellow letters across the top of it, sticking out from behind Commodore User. I took it down and flicked through the pages and I found quite a bit of plus/4 stuff, quite a bit more than C.U. So I bought this one instead. Yes, you've guessed it; it was the AUGUST '86 issue of CCI.

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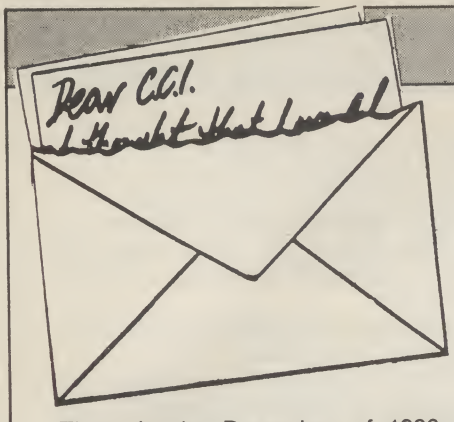


Then, in the December of 1986, I thought of making my own PLUS/4 MAGAZINE. I wrote to CCI, and they printed my letter. I then got over 40 requests from plus/4 owners asking if they could join my 'club'. I sold my mag for 10p until I found a big shortage on supplies, so I had to raise it to 20p. I had some really happy readers.

Now, I am still doing the magazine, but it is called PLUS/4 USER MAGAZINE. And it is 35p per mag. So a subscription for the months JAN-DEC 88 will cost just £6.60 including P&P. Now that isn't bad is it? If you want to subscribe to PLUS/4 USER, or want to get a free back issue to see what it is like first, then write to the address below, including 25p/25p in stamps.

I hope that CCI print this letter and I hope that they keep on supporting the Commodore plus/4 like they have done for the past 2 years.

THANK YOU.

Yours faithfully,

Andrew Hagon, 12 Fowlers Farm Road, Stockenchurch Road, Bucks. HP14 3P4.

Dear Andrew

We hope you will have plenty more 'happy readers' for your mag. But 10p to 35p? Isn't that a big jump? CCI has only gone up 20p in 5 years!

Dear CCI

HELP! Anyone out there ever succeeded in operating "Blitzkrieg at the Ardennes" by Command Simulations?

How does one move that last Infiltrator unit when every attempt is rewarded by such brilliantly enlightening messages as:— "illegal move" or "pointer position is ambiguous."

In six years — from VIC20 days until now — this is the first simulation which appears to my friend and I to be totally unplayable!

The — don't laugh — instruction book realy is a sick joke when compared, shall we say, with the comprehensively detailed information provided with the Amiga's "Kampfgruppe", or with those for the 64's Crusade in Europe and of course that superb Silent Service instruction book, especially its page 16. S.S.I Simulations instructions are so explicit and unambiguous that only morons could fail to understand them.

Maybe I shall be taken to task because BATA uses a mouse menu, supposedly, to achieve its goals, all I can say is look at the simple number system used in the 64's Battle of Britain simulation, what could be easier than that?

I'm not surprised neither Command Simulations' programmers' names nor the publishers' address is available, as in my opinion they wouldn't dare.

Command Simulations need never fear we shall be parted with our money ever again, we won't.

How many of your readers, who enjoy similar simulations, remember that truly brilliant 1983 Imagine creation for the Spectrum "Stonkers"? It was the only one ever to enable one to see the tanks, guns and lorries actually moving across the terrain. How my friends and I wish someone could program a much larger version taking full advantage of the Amiga's advanced facilities. That would be some program.

Yours truly,

E. Le Marquant, 'The Bo De La Rue Cornerways', St. Lawrence, Jersey, C.I.

P.S. Thanks for a GREAT new mag!

Dear E. Le Marquand,

Well, Command Simulations, are you out there or are you afraid to make your identity known? Any reader able to help please contact E. Le Marquand direct.

Dear CCI

I read with interest the article in the April edition of CCI on the NEWSROOM programme.

We have been using this programme for some time now at this youth centre to produce newsheets and information bulletins.

Please find enclosed copies of some of the work of the young people at this centre, carried out on a Commodore 128, using Newsroom — they might be of some interest to you or your readers.

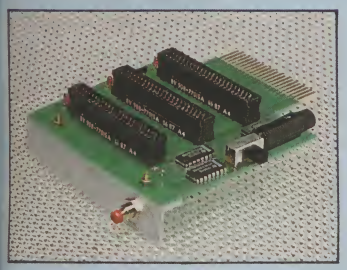
Yours sincerely,

J. Fanning. Teacher/Leader Youth and Community Service. Kent.

Dear J. Fanning

Thank you for sending us the publications you produced on Newsroom. We think that you have used a first class program very well indeed. Any other readers have worthwhile Newsroom publications?

DATEL ELECTRONICS



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Save wear and tear on your Expansion Port

- ❑ Accepts 3 cartridges.
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- ❑ High grade PCB.
- ❑ Fully buffered.
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DATA RECORDER

- ❑ Quality Commodore compatible data recorder.
- ❑ Pause control.
- ❑ Suitable for 64/128.
- ❑ Counter.
- ❑ Send now for quick delivery.

ONLY £24.99

SMART CART ™

Now you can have an 8K or 32K cartridge that you program like RAM then acts like ROM!

- ❑ 8K or 32K pseudo ROM.
- ❑ Battery backed to last up to 5 years (lithium battery).
- ❑ Simply load the program you require – then flick the switch. The cartridge can then be removed just like a ROM cartridge.
- ❑ Make your own cartridges including autostart types – without an EPROM burner.
- ❑ Can be switched on or off board via software.
- ❑ I/O 2 slot open for special programming techniques.
- ❑ 32K version has 4 x 8K pages.
- ❑ Some knowledge of M/C is helpful – but full instruction are provided.

8K VERSION £14.99
32K VERSION £29.99

SMARTCART UTILITIES

A series of utility programs for use with Smartcart. Simply load in the program and you have a powerful cartridge. When you have a different requirement – load in another program and you have a new cartridge. The process takes seconds, and can be repeated any number of times.

We intend to release a range of programs. The first available are:

DISKMATE II

- ❑ all the features of Diskmate II (see ad).

Loaded in seconds – with full instructions. **ONLY £9.99**

PRINTER IV

Now you can turn your MPS 801 into 4 printers in one!!

- ❑ Alternative character set ROM – fitted in seconds.
- ❑ All four sets have true descenders.
- ❑ 100% compatible with all software.
- ❑ Descender. ❑ Eclipse.
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"For anyone who uses their printer often this chip is a must. It's quick and easy to use and the end results are impressive" – Your Commodore, Jan 87.

ONLY £19.99

TURBO ROM II

Turbo Rom II is a replacement for the actual kernal inside your 64. It provides superfast load/save routines.

- ❑ Loads most programs at 5-6 times normal speed.
- ❑ Saves at 5-6 times normal.
- ❑ Improved DOS support including 10 sec format.
- ❑ Programmed function keys:- load, directory, old, etc.
- ❑ Return to normal kernal at flick of a switch.
- ❑ FCOPY – 250 block file copier.
- ❑ FLOAD – special I/O loader.
- ❑ Plus lots more.
- ❑ Fitted in minutes – no soldering usually required. (On some 64's the old ROM may have to be desoldered).

ONLY £14.99

BLAZING PADDLES

A complete lightpen/graphics illustrator package.

- ❑ A fully icon/menu driven graphics package of a calibre which should cost much more.
- ❑ Complete with a fibre optical lightpen system for pin point accuracy.
- ❑ Multi feature software including:
  - ● Range of brushes ● Airbrush ● Rectangle ● Circle ● Rubberbanding ● Lines ● Freehand
  - ● Zoom mode ● Printer dump ● Load/save ● Advanced colour mixing – over 200 hues!!
  - ● Cut and paste allows shapes/windows/pictures to be saved to/from tape/disk.
- ❑ Blazing Paddles will also work with many other input devices including; Joysticks, Mice, Graphics Tablets, Trackball etc.
- ❑ Pictures can be saved from Action Replay and edited with Blazing Paddles.

Complete Blazing Paddles & Lightpen **ONLY £24.99**

Blazing Paddles available separately for **£12.99**

TOOLKIT IV

The ultimate disk toolkit for the 1540/1541

- ❑ A disk toolkit is an absolute must for the serious disk hacker. Toolkit IV has more features than most for less.
- ❑ DISK DOCTOR V2 – Read and write any track and sector including extra and renumbered tracks. Repair damaged sectors. Look underneath read errors.
- ❑ HEADER/GAP EDITOR – Decodes and displays ALL header information including off bytes and header gap. Rewrite the entire header and header gap. Renumber sectors. Also edit any sector tail gap.
- ❑ DISK LOOK – Sort directory. Recover lost files. Display file start/end addresses. Disassemble any file program directly from the disk to SCREEN or PRINTER including undocumented opcodes. Edit Bam. Much, much more.
- ❑ FILE COMPACTOR – Can compact machine programs by up to 50%. Saves disk space. Compacted programs run as normal.
- ❑ FAST DISK COPY – Copy an entire disk in 2 minutes or less using single 1541.
- ❑ FAST FILE COPY – Selective file copy. Works at up to 6 times normal speed.
- ❑ FORMATTER – 10 second format an entire disk or format any individual track or half track 0 to 41. Redefine any of 30 parameters to create or recreate unique disk formats.
- ❑ ERROR EDIT – Quickly find and recreate all read errors including extra and renumbered tracks or sectors and half tracks from 0 to 41. Even recreates data under errors and allows you to redefine any necessary parameters.

ONLY £9.99

RAM DISK

- ❑ Turn your Smart Cart into a 32K RAM/disk.
- ❑ 32K of instant storage area for files/programs.
- ❑ Load/save instantly.
- ❑ Disk type commands: load, save, directory, scratch.
- ❑ Program data retained when computer is switched off!
- ❑ Full command set with instructions.

ONLY £9.99

ROBOTEK 64

Model & Robot Control made easy

- ❑ Robotek 64 is a comprehensive hardware/software package which enables you to connect your 64/128 to the outside world.
- ❑ 4 output channels – each with onboard relay
- ❑ 4 input channels – each fully buffered TTL level sensing.
- ❑ Analogue input with full 8 bit conversion.
- ❑ Voice input for voice control.
- ❑ Software features:- test mode/analogue measurement/voice activate/digital readout etc.
- ❑ Excellent value! **ONLY £39.99**

including hardware/software/mic etc. (State tape or disk)

DIGITAL SOUND SAMPLER

- ❑ The new sampler allows you to record any sound digitally into memory and then replay it with astounding effects.
- ❑ Playback forwards/backwards with echo/reverb/ring modulation etc.
- ❑ Now with full sound editing module to produce outstanding effects.
- ❑ Full 8 bit D to A and ADC conversion.
- ❑ MIDI compatible with suitable interface. (I.e. Datel unit for £29.99, see ad).
- ❑ Live effects menu includes real time display of waveforms.
- ❑ Line in/mic in/line out/feedback controls.
- ❑ Powerful sequencer with editing features.
- ❑ Load/save sample.
- ❑ Up to 8 samples in memory at one time.
- ❑ Tape or disk (please state).
- ❑ Complete software/hardware package **£49.99**
- ❑ Com-Drum software is available separately at **£9.99** to turn your Sampler II into a Com-Drum system as well as a sampling system.

COM-DRUM

Digital Drum System

- ❑ Now you can turn your computer into a digital drum system. ❑ Hardware/software package.
- ❑ 8 digital drum sounds in memory at one time.
- ❑ Complete with 3 drum kits.
- ❑ Real drum sounds – not synthesised.
- ❑ Create superb drum rhythms with real and step time. ❑ Full editing. ❑ Menu driven.
- ❑ Output to hi-fi or through tv speaker.
- ❑ Load/save facilities.

ONLY £29.99 (state tape or disk)

COM-DRUM EDITOR

- ❑ 24 drum sounds supplied on disk to enable you to construct your own drum kit.
- ❑ Re-arrange sounds supplied with a Com-Drum to make new kits.
- ❑ With sound sampler hardware you can record your own kits. ❑ Load/save facilities.

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256K SUPEROM EXPANDER

- ❑ Now you can select from any of 8 32K EPROMs instantly.
- ❑ 8 sockets to accept upto a 32K EPROM in each.
- ❑ On board operating system – no programs to load.
- ❑ Program your own EPROMs using our EPROM programmer.
- ❑ No need to have loads of cartridges – just make a selection from the Superom menu.
- ❑ Directory of utilities on power up.
- ❑ Fully menu driven on power up.
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- ❑ Unique EPROM generator feature will take your own programs – basic or m/c and turn them into autostart EPROMs. (EPROM burner required).
- ❑ Accepts 2764/27128/27256 EPROMs.
- ❑ On board unstoppable reset.

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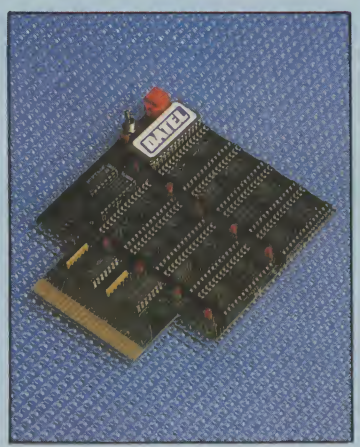

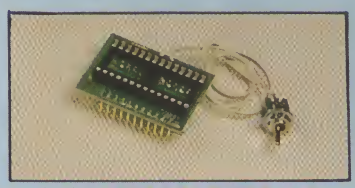

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- ❑ This board fits in place of the kernal in your 64 and accepts a 16K or 32K replacement kernal giving 2 or 4 different operating systems.
- ❑ Just flick the switch supplied to select between systems.
- ❑ This is a carrier only – ready to accept your own chip.
- ❑ Now you can have all your different systems available at one time.

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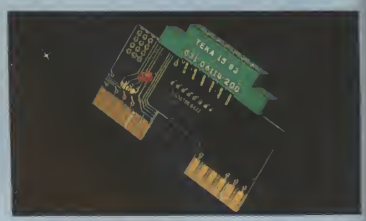

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- ❑ Makes tape to tape back-ups.
- ❑ Works with even Turbo Loaders etc.
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- ❑ Makes perfect copies.
- ❑ Very simple to use.
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- ❑ Unstoppable reset button.
- ❑ Resets even so called "unstoppable" programs.
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- ❑ Fits in cartridge port.
- ❑ Simply plug in.

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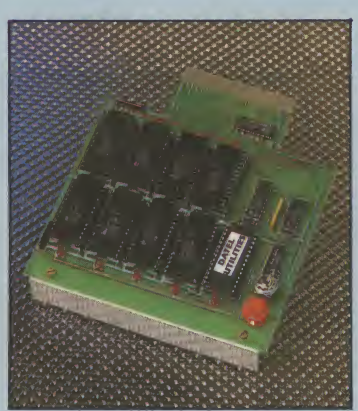

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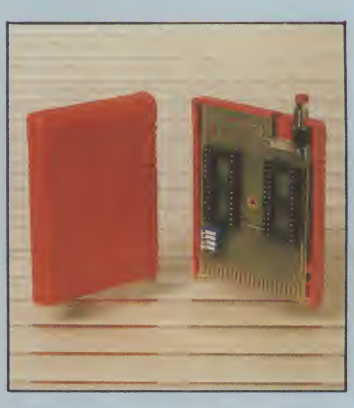
- ❑ Copies standard software as well as errors 21-29 and upto 40 tracks.
- ❑ Full disk error check in eight seconds.
- ❑ Full disk verify against ram in fifteen seconds.
- ❑ A must for clubs, user groups etc. How else can you copy over 250 disks and hour for less than £100.
- ❑ Comes complete with on/off switch and reset button.
- ❑ Fitted in minutes – no soldering usually required.

ONLY £89.99



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- ❑ Accepts 2 x 8K EPROMs.
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- ❑ Quickly and easily double your disk capacity.
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DEEP SCAN BURST NIBBLER™

- ❑ The most powerful disk nibbler available anywhere, at any price!
- ❑ Burst Nibbler is actually a two part system – a software package **and** a parallel cable to connect the 1541/1570/1571 to 64/128 (state type).
- ❑ What gives Burst Nibbler its power? Conventional nibblers have to decode the data from the disk before it can transfer it using the serial bus – when non standard data is encountered they are beat. Burst Nibbler transfers data as raw GCR code via the parallel cable without the need to decode it so you get a perfect copy of the original.

● Will nibble upto 41 tracks. ● Copy a whole disk in under 2 minutes. ● Full instructions.
● Regular updates – we always ship the latest. ● Fitted in minutes – no soldering usually required.
● Full or ½ tracks. ● No need to buy parallel cable if you have Disk Demon/Dolphin etc.
● Cable has throughbus extension for other add ons.

- ❑ Whether to choose FastHack'em or Burst Nibbler? Fast Hack'Em is unbeatable value as an "all-rounder" – with nibblers, 1 or 2 drive copy, format, file copy, 1571 copy etc. etc., so if you have a more general requirement perhaps FastHack'Em is for you. Burst Nibbler is a pure nibbler second to none, for the reasons stated. So if it's just making backups you are interested in, there is no other product to beat it.

ONLY £24.99 COMPLETE

SOFTWARE ONLY £12.99 CABLE ONLY £14.99

EPROMMER 64™

- ❑ A top quality, easy-to-use EPROM programmer for the 64/128.
- ❑ Fully menu driven software/hardware package makes programming/reading/verifying/copying EPROMs simplicity itself.
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- ❑ We believe Eprommer 64 is the most comprehensive, most friendly and best value for money programmer available for the 64/128.
- ❑ Ideal companion for Superom Board, Cartridge Development System, our kernal expanders or indeed any EPROM base project.
- ❑ Comes complete with instructions – plus the cartridge handbook.

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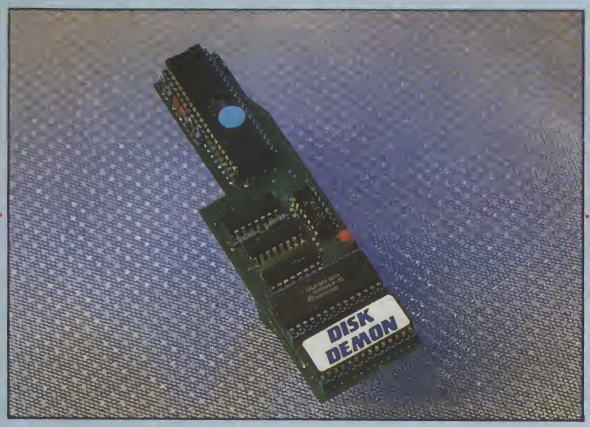
DATEL ELECTRONICS



PROFESSIONAL DOS ™ MIKROTRONIC

£64.99 POST FREE with Disc Demon operating system

"The world's fastest parallel operating system"

- ❑ Loads a typical 202 block program file in under 3 seconds!
- ❑ 60x faster load (PRG files).
- ❑ 25x faster load (SEQ files).
- ❑ 20x faster save (PRG files).
- ❑ 20x faster save (SEQ files).

PLUS AN ADVANCED COMMAND STRUCTURE INCLUDING:

- ❑ Fast format – up to 40 tracks (749 blocks).
- ❑ 16 function keys: list, run, load, directory, format, save, old, verify, etc.
- ❑ Fload will fastload files up to 250 blocks (other similar systems will only cope with 202 blocks).
- ❑ Number conversion. ❑ Reset.
- ❑ Unique built in file copier will copy files up to 250 blocks like lightning – multiple copy options – perfect for copying Action Replay files.
- ❑ Highly compatible with commercial software – can be switched out for non compatible programs.
- ❑ Perfect for use with Action Replay 3 – a typical AR3 backup will reload in about 3 seconds – yes 3 seconds!
- ❑ Speeds up other DOS functions including verify, scratch etc.
- ❑ Comes complete with superfast file and whole disk copier free!
- ❑ Screen on or off during loading.
- ❑ Enhanced command set – over 30 new commands.
- ❑ Easily fitted – Disk Demon plugs inside the 1541 and the new operating system chip plugs inside the C64/128. Fitting takes only minutes and usually requires no soldering.
- ❑ User port throughbus supplied free – you could pay £15.00 for this alone.
- ❑ Supplied complete – no more to buy.
- ❑ Works on C128/1541 in 64 or 128 mode.

C128 version

£69.99

BLUE CHIP DRIVE ● Fully C64/128 compatible.

- ❑ At last a top quality drive at a sensible price.
- ❑ Super slimline case
- ❑ External power supply for cool operation.
- ❑ Direct drive motor.
- ❑ Supplied complete with all cables – no more to buy.
- ❑ This drive is now probably the most compatible drive available for the Commodore. More so than even Commodores own '1541C. Much more so than other so called compatibles. In fact we have been unable to find a program including the latest that would not work. (At time of Press).
- ❑ **No need to look elsewhere – this is the best.**

ONLY £139.99 POST FREE
(If you require courier delivery add £5.00).

ULTRA CRUNCHER

● The ultimate cartridge based program compactor.

- ❑ Compacts by upto 30%!
- ❑ More programs for disk.
- ❑ 3 compacting programs on one cartridge.
- ❑ Fast loading/saving routines – works with Disc Demon.
- ❑ Can even further compact AR III files!
- ❑ 250 block file copy function.
- ❑ Full DOS support including fast format.

ONLY £12.99 on cartridge.
Available as chip only for 256K Superom Board for only £7.99

FAST HACK'EM ™

● Multi Module Disk Nibbler – all on one disk.

- ❑ Single 1541 Nibbler – Copy a disk in 2 minutes.
- ❑ Auto Nibbler – Copy an entire protected disk in 3 minutes.
- ❑ Super fast File Copy – Under 9 seconds typically.
- ❑ Copes with Fat Tracks.
- ❑ Superfast Copy – Entire disk in 36 seconds with verify.
- ❑ Twin Drive Copier – Even faster!
- ❑ Plus unique "Parameters" mode. These files "Unlock" the more heavily protected programs with a parameter for a particular brand or even single program.
- ❑ **No other product is such a good "All Rounder" at this price its unbeatable.**

ONLY £9.99 POST FREE

DISKMATE II

The Disk Utility Cartridge

- ❑ Disk fastload cartridge.
- ❑ Up to 5 times faster.
- ❑ Fast save. ❑ Fast format (10 secs).
- ❑ Improved DOS – single stroke commands – load/save/dir/old etc.
- ❑ Redefined function keys for fast operation of common commands.
- ❑ Powerful toolkit commands including: old/delete/merge/copy/append/autonum/linesave etc.
- ❑ Plus a full machine code monitor – too many features to list but it has them all!
- ❑ Special switching techniques make Diskmate invisible to the system. Therefore it is a more compatible fastloader than other types.
- ❑ Diskmate II is

ONLY £14.99

MIDI 64

A Full Midi Interface for the 64/128 at a realistic price

- ❑ MIDI in. ❑ MIDI thru. ❑ 2 x MIDI out.
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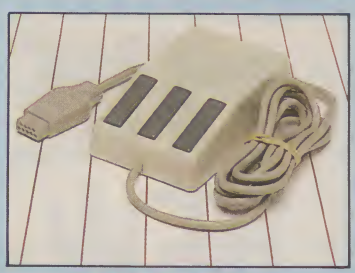

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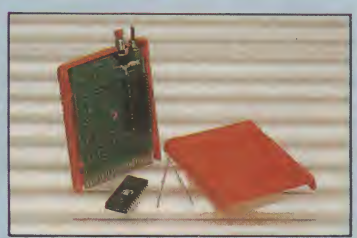

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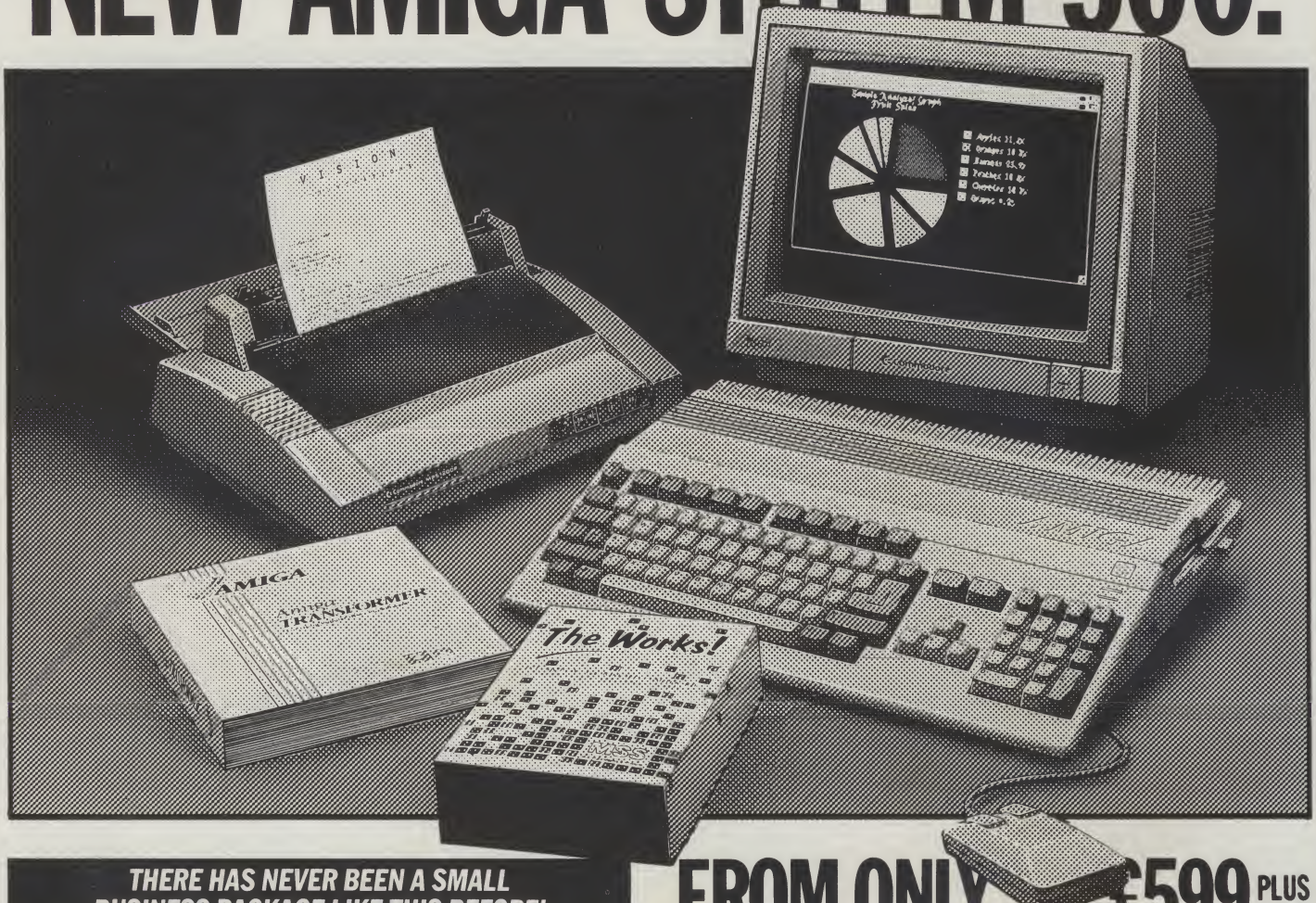

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Constructing Your Adventure

Peter Gerrard continues his series by remembering black holes, white holes and worm holes in space and wonders about a super-duper Radio One in the search for new adventures.

Two distinctly different sections this time around; a spot of programming to begin with, and a host of ideas to conclude.

One word which has entered the adventure player's vocabulary lately, and which certainly was not seen in any of the early adventures, is the word 'all'. People now frequently try and GET ALL or DROP ALL, whereas before they were content to get or drop things individually. This is all part of the increasing power of the parser and the demand for ever more sophisticated games.

Anyone who has played, for example, The Pawn, will know what I mean. From my own point of view I cannot see the point in having to type in the command Put the pot plant in the plant pot, however wonderful it may make the parser appear. In this case I am sure it was only ever included so as to impress gullible reviewers, for the blessed pot plant is in the plant pot to begin with! You have to take it out, using a trowel if I remember rightly, and then put it back in again, all this is to score about 5 points. A waste of time.

Again from my own point of view, however sophisticated the parser might be I still tend to play an adventure in verb ... noun format, only occasionally using more words where a situation clearly requires it. Why on earth type Climb the slippery rope wearing the stout gloves when you could just as easily have Wear Gloves, Climb Rope instead? Less typing, and less time for the program to have to work out what you mean. Perhaps I am in a minority, but personally I think that a parser that understands four words is sufficient, and I absolutely loathe and detest adventures that insist that you (for example) go north quietyl, or untie rope carefully. If it were a real-life situation rather than an adventure, if you had to go north quietly you WOULD go north quietyl, you would not trample in like a wounded elephant, and I think that programmers should accept that those things are implicit in the instruction given to the program. An adventure should be about solving problems, not working your way through Roget's Thesaurus in a vain attempt to find the correct word.

What has brought all this on, you might be wondering. Hangover? No. Sound thrashing in Tuesday's pool league match? No (we won!). It was a quote written by a friend of mine, which read that a definition of frustration was spending three months typing "Say 'give life with thee my trusty blade'" near the end of an adventure only to find (quite by accident) that the correct input is "Shout 'give life with thee my trusty blade'". That sort of thing should never happen, so keep it out of your own adventures, eh?

However, I can appreciate the usefulness of the word ALL. Not only does it save time, it can also be a useful aid to solving the adventure, if you go around typing GET ALL everywhere and seeing what the responses are. The first time I tried to implement such a routine in an adventure I gave up, thinking that it was impossibly difficult and nobody would ever want to use it anyway. However, I tried again recently, and discovered that it was not quite as difficult as I thought. We will look at GET next month, perhaps, but this month we shall concentrate on DROP.

We will not be going any further than GET or DROP though. Even the might Infocom don't have EXAMINE ALL, for instance, in their massive 512K 16-bit adventures.

If you look at the listing headed Figure One you will see a fairly conventional DROP routine from one of my adventures, and in order to understand it I had better explain what a few of the variables are all about.

Lines 2550 and 2551 concern themselves with object number 61, a dog. This was a different slant on a conventional idea, because the dog is in fact a guide dog, and without him you cannot get through the blackness of the cave section of the game. It makes a change from roaming around trying to find a lamp and some batteries, a situation I am somewhat tired of seeing. If you are dropping the dog then tell the player so, and if he is not carrying object number 11 in the correct manner (a candle in a box, to stop the wind blowing it out) then the variable 'lo' is set at zero, indicating light off.

Line 2552 sorts out link words and nouns by going to line 2556 if a link word has been typed in. The player might have typed DROP BOX ON FLOOR, which we just interpret as DROP BOX after lines 2566 and 2568 have had their say. Line 2554 (and 2566 for that matter) concerns objects numbers 24 and 26, which are the same thing. (It (they?) is (are?) a pair of tennis rackets, and noun 24 is the word TENNIS and noun 26 is

continued on next page

the word RACKETS, just in case the player decides to DROP TENNIS instead of DROP RACKETS. A case of convenience for the player rather than the programmer.

Line 2556 checks to see whether the player is carrying the object in question, and if he is not then message number 153 is printed out courtesy of a rountine at line 5995. This is just a few words to the effect that you cannot drop something that you have not got.

The rackets are meant to be worn, like snowshoes, and if the player is dropping the rackets then the 'rackets worn' variable 'rw' is set to zero by line 2558.

Assuming that the object to be dropped is not object number 42 (the number is mere coincidence, I assure you, and nothing to do with the meaning of life!) then line 2560 sorts everything out by placing the object in the current location and informing the player that he has, in fact, dropped it.

"Perhaps I think too highly of players, and neither of my testers found it, but someone, somewhere, would no doubt type it in!"

So, DROP ALL was not too difficult, and with a sigh of relief we can go from programming to theory.

Recently I have been going through my collection of Isaac Asimov science fiction novels (again!), and the last two that I re-read were The Gods Themselves and The Currents of Space. Perhaps a better description of these two particular books would be science faction, as both take a plausible, or at least extremely well hypothesised, piece of scientific knowledge and weave around it an exciting tale of interstellar and intergalactic skullduggery, with just a little bit of romance thrown in for good measure.

It has often struck me that the science fiction world of adventure games is sadly lacking, although Infocom come to our rescue with such games as Planetfall and Stationfall, both featuring the truly wonderful robotic creation known as Floyd. Some positronic brains do 'ave 'em, although I can't see Floyd ever taking the lead role in The Phantom of the Opera somehow.

The point linking those two paragraphs is this: why don't more adventure writers take their example from dear old Isaac's methods, and concoct an exciting adventure based in some way on scientific fact, or something that has repeatedly proposed as scientific fact. Remember, no-one has for certain found a black hole yet, no-one has for certain proved that quarks and gluons exist, but everybody tends to accept them as being essential to proving various theories.

Thus we arrive at a paraphrasing of Infocom's usual term: Interactive Faction, adventures that start off with a sound basing in fact, or proposed fact, and which take those facts as the basis for an interesting, possibly humorous, certainly different, type of adventure game.

With all the lofty eminence of a degree in astronomy from University College London (albeit from years ago . . . ageing hippy, I know!), in no particular order we shall wonder through and around one or two science fiction 'stories' that could easily be used as the basis for an adventure game, starting with something very close to the plot behind the aforementioned Asimov classic The Gods Themselves.

In my first year at university we all had to write a report on any 'unusual' aspect of astronomy that interested us, and we all went scurrying to the library (well, to be honest, bar first, library later) in search of information and inspiration. It was there that I first read all about black holes, worm holes, and white holes. What? Virtually everyone has heard of black holes, but the others? They have been proposed in several different scientific journals, by a variety of different authors. The theory is simple. If we take the postulate that a black hole exists, then what happens to all that energy that is being sucked into the things? It can't just vanish, that would be breaking several laws of physics, and apart from anything else it would leave us with a universe that was gradually running out of energy. Entropy, and all that. So, the theory is that it all travels along a worm hole until it re-emerges via a white hole into another universe. However, if this is the case, then other universes must also have black holes which are sending energy to us via worm holes and white holes, in order to maintain stability. Why has nobody detected any white holes? Nobody has detected any black holes yet, although there is a strong case for one in the constellation of Cygnus, the Swan. A beautifully constructed theory that really explains nothing, but which opens up the path to other universes.

"Why has nobody detected any white holes? Nobody has detected any black holes yet, although there is a strong case for one in the consetellation of Cygnus, the Swan."

Parallel universes, alternate universes, call them what you will, but an adventure that starts off with our explorer vanishing down a black hole and emerging into another universe, then desperately trying to get back to his own place and time, would be an interesting one. In an adventure like that, just think of the fun you could have dreaming up your other universe, where none of the laws of physics as we know them would necessarily apply. What might be an exceedingly heavy object in our universe might be very light in another one, although it would still possess the same inertia. Well, possibly, anyway, you

continued on next page

Figure One

```
2550 if na=61 and ob%(61)=-1 then print "You leave the dog.":goto 2572
2551 if na=61 and ob%(61)=cp then 10
2552 if li<>0 then 2566
2554 if na=24 then na=26
2556 if ob%(na)<>-1 then mess=153:goto 5995
2558 if na=26 then rw=0
2560 if li=0 and ac=0 and na<>42 then print "Okay, ";ob$(na);" dropped.":ob%(na)
=cp:zz=zz-1:goto 10
2562 if na=42 and cp<18 then np=cp+2:goto 2570
2564 if na=42 then np=cp-2:goto 2570
2566 na=li-12:if na=24 then na=26
2568 li=0:ac=0:goto 2556
2570 print "Boinnnggg!!!":ob%(42)=np:zz=zz-1:goto 10
2572 ob%(61)=cp:zz=zz-1:if ob%(11)<>-2 then lo=0:goto 10
2574 goto 2551
```

Figure Two

```
2550 if na$="all" then 2580
2580 for i=1 to nn
2582 if i=61 and ob%(61)=-1 then print "You leave the dog.":ob%(61)=cp:goto 2592
2584 if i=26 and ob%(26)=-1 then rw=0:goto 2587
2585 if i=42 and ob%(42)=-1 then print "Boinnnggg!!!":if cp<18 then np=cp+2:goto
2590
2586 if i=42 and ob%(42)=-1 and cp>17 then np=cp-2:goto 2590
2587 if ob%(i)=-1 then print "Okay, ";ob$(na);" dropped.":ob%(na)=cp:zz=zz-1
2588 next i
2589 goto 10
2590 ob%(42)=np:zz=zz-1:goto 2588
2592 zz=zz-1:if ob%(11)<>-2 then lo=0
2594 goto 2588
```

might want to change a little bit more than just the laws of gravity.

I briefly looked at some of Carl Sagen's more outrageous writings on the subject of life on other planets, and in particular the planet Jupiter. No-one will be able to prove his theories right or wrong for many years, perhaps centuries, because Jupiter is a difficult place to explore to say the least. However, an adventurer could go there, and meet all the strange, weird and wonderful animals that Sagen puts forward as possibly existing in the thick Jovian atmosphere.

What I eventually concentrated on was the search for the tenth planet. Arthur C. Clarke, another superb science fiction author, repeatedly makes mention of a tenth planet called Persephone, but what he intends it to be is uncertain, as it appears to have no purpose other than dating a story of his as some way off in the future after this tenth planet has been found. According to all the scientific papers I read, there is a stronger case for arguing that the Sun is part of a binary system, with its partner being way, way beyond the orbits of Pluto and Neptune. This 'star' is supposed to be visible in the infra-red, is supposed to have run out of steam long ago, and could explain some slight perturbations still to be found in the orbits of the outer planets.

"Send an adventurer there, that's what I say, and let him explore this companion star of our Sun."

Send an adventurer there, that's what I say, and let him explore this companion star of our Sun. Perhaps it is not a part of nature at all, but some ancient artefact put there by explorers long ago. Not very scientifically plausible, but in the world of adventures anything goes. Nobody, incidentally, has yet proved that there is not another star out there in some sort of linked orbit with our Sun· there is a stronger case for its existence than there is for its non-existance. This is the sort of situation where, once again, you could let your imagination run riot and create a whole new world for your adventurers to explore. If any of you have ever read Arthur C. Clarke's Rendezvous with Rama you will know the sort of thing. Not only are you exploring an unknown world, but you are also exploring one created by an unknown intelligence, one that has a completely different way of thinking to mankind. Thus you could set problems that require a different viewpoint from normal in order to be able to solve them.

In my final year at university those of us who had survived the years of student life and overdrafts were required to write a ten thousand word report on a topic within the astronomical field. We were supposed to be serious students by now, and were not allowed such a free rein with our choice of subject matter. A carefully prepared list was presented, and we chose from that. I selected a curious group of stars known as Wolf-Rayet stars (in honour of their discoverers), which are way down at one end of the stellar life cycle, but which for some peculiar reason are giving off far more energy than they should. Are they nearer than we thought and giving off normal amounts of energy, in which case the standard way of estimating the distances to the stars is proved wrong, or are they really far away, in which case our theories of stellar evolution could do with a spot of revising. Are they artificial beacons in space, manned by beings from other planets? A kind of super-duper Radio One, presumably not playing the same banal drivel that usually occupies our airwaves. Again, send an adventurer there and let him have an explore.

With all these ideas floating around for free, let's see what you can come up with, dear reader. You shall astound and amaze Andy Moss yet! Bye for now.

P.G.

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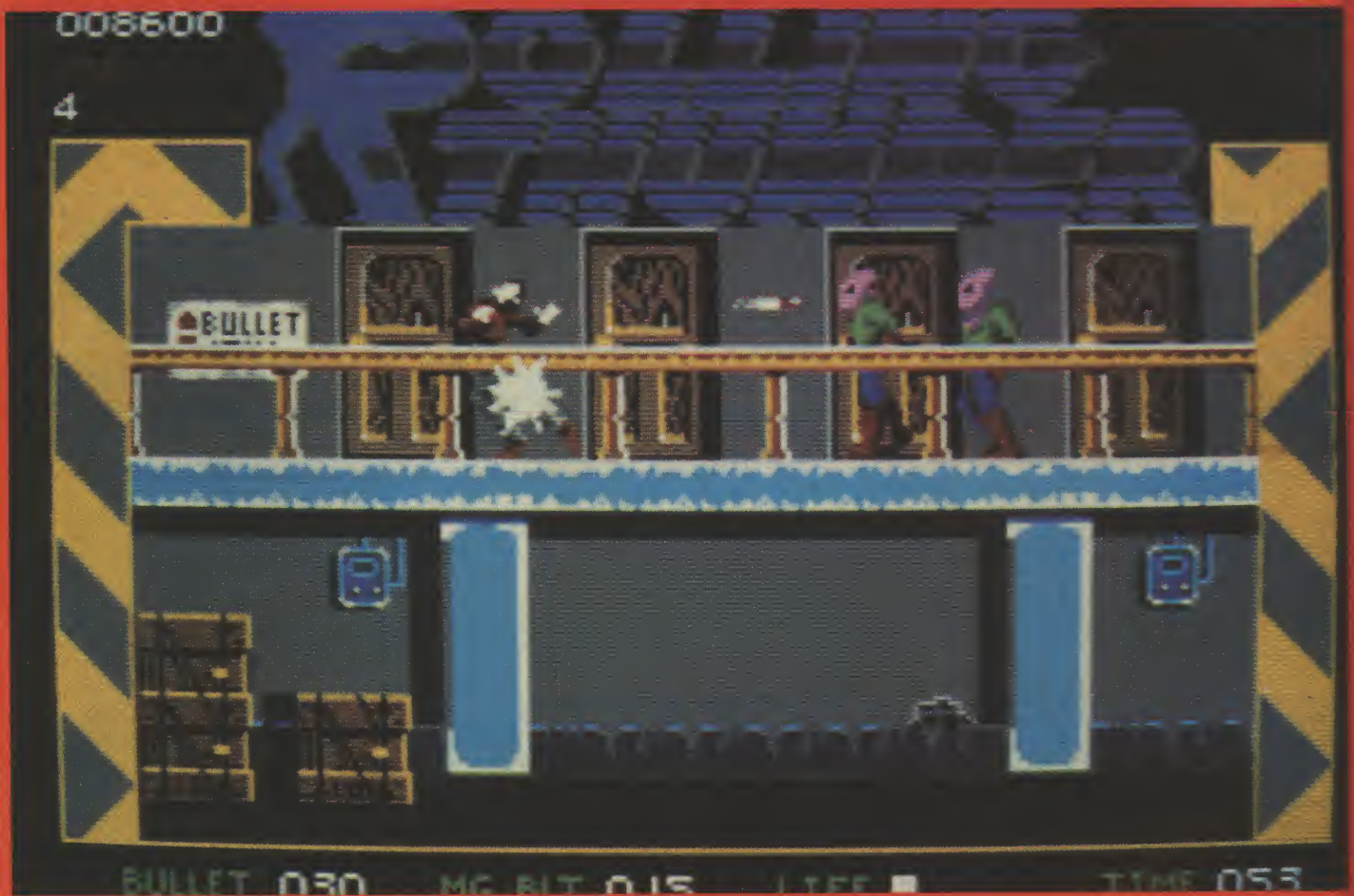
Rolling



Right now, Sega are dominating the arcade scene. Their equipment overshadows the competition not just in quality, but in the size of the machines. Rival coin-op companies are having to come up with some good stuff to draw people away from the likes of Afterburner and the more recent Thunderblade. With Rolling Thunder, Atari have succeeded as far as I am concerned. No fancy cabinet or hydraulics are needed, just good old fashioned playability.

Rolling Thunder is the name of an undercover police force. You play the part of one of their agents code named Albatross, and have been assigned the mission of rescuing hostages from the clutches of an evil green man who plans to take over the world. Five levels have to be penetrated twice over before meeting up with the green man and wrinkly Maboo.

Agent Albatross is a tall slim chap who has taken to wearing tight trousers slightly flared at the bottom. This is set in 1960 however, so he is really quite ahead of his time. From the start, it is obvious that the conversion has been carried out very well. Maboo's face on a giant video screen complete with a sampled laugh starts the game. As you enter the first level, the similarities of the Amiga and coin-op graphics are amazing. A warehouse is the location for the first level. Cracked plaster on the walls gives you the impression the enemy have more important things on their minds than interior decoration. Hooded minions of Maboo sense danger and close in whenever they see you.

Hooded minions of Maboo sense danger and close in whenever they see you.

A walkway above ground level provides an escape route; Albatross is very athletic and can leep ten feet into the air and perform a spectacular vault over the handrail. The bad news is that so can the Bananaman look-alikes. Your defence against them is your pistol which has a limited amount of ammo. A shot from your pistol will throw them back onto the floor. Some will shrivel and vanish, but others take two or three hits. Their strength is

gThunder

US Gold

random unlike the coin-op in which they are colour coded. Doors line the walls which the henchmen use as entrances. A few of these are labeled and can refill your pistol or give you a machine gun.

Mowing down a row of Bananamen with a machine gun is a sensational experience on the coin-op, and a lot of this has been brought across in the conversion. The recoil of the gun is really well done, it just lacks the sound effect to equal it. A short way into the game you reach a stepped shaft. Jump down and you have to pick off baddies hiding in stacks of tyres. Negotiate a large pile of sandbags and you will be taken to level two.

Deeper into the lair on the second level, the enemy throw bombs at you as you climb a massive stack of packing cases and stairways. Once you reach the third section you will notice the warehouse disguise has been dispensed with, leaving bare rock walls. Superbly drawn gremlins hobble around, throwing themselves at intruders. Winged monkies and men of fire introduce themselves nearer the end.

Superbly drawn gremlins hobble around, throwing themselves at intruders. Winged monkies and men of fire introduce themselves nearer the end.

The copy I had for review had a few bugs due to the wrong version being duplicated. A few of these may have slipped out before they could be stopped. So if you receive one of these, US Gold will be glad to replace it with a finished copy.

In nearly all respects, US Gold have converted the coin-op extremely accurately. As far as the sound goes, the flavour of the music has been captured and some of the sampled effects are excellent, not least the opening of the doors. All the sprites have been recreated superbly, including the mysterious prowling of the Bananamen. Fans of the coin-op will notice the layout of the levels is slightly different, but they have all the features of the original. Decorative graphics cut down the size of the playing area, and the scrolling is noticeably a shade jerky, but this can be overlooked. Its only black mark is its rather slow response time which sometimes gets you into trouble. In this brilliant

They have come up with an excellent game, full of atmosphere, suspense and outstanding playability.

conversion of Rolling Thunder US Gold have not let us down. They have come up with an excellent game, full of atmosphere, suspense and outstanding playability. Do not miss it!

T.H.

Price: £24.95

Graphics: 89%
Sound: 80%
Playability: 95%
Rating: Awesome

The Expert Cartridge

Want to be an expert? Tony Horgan plugs into Trilogic's latest cartridge to see how easy it is for you to become one.

These utility cartridges just keep on coming, getting more powerful with every revision. Triligic's latest is The Expert V 3.2.

The most apparent difference between The Expert and its rivals is that The Expert is programmable. This means that instead of having all its features on ROM, they come on a cassette or disk which is loaded into your computer and then used to program the cartridge. This also means that up-grades are just a matter of replacing the software, with no alterations to the hardware needed.

With the latest version, back-ups to tape or disk have been simplified. Using the new "Easifreeze" feature, a program can be halted and saved with ease. To go with the back-up feature, many other utilities have been included. For disk users, a fast formatter and turbo loader have been included. A menu generator which resides on the directory track of the disk and so takes up no apparent space can be added to aid disk loading even further. Tape users also get a turbo load system.

Gamers can get a lot from this cartridge: autofire, infinite lives and sprite collision disablement are all available, although they may be unreliable. A section in the manual gives helpful information on how to convert pokes such as found in "Horgan's Hints", to be used with the monitor. Handy for those pokes, a reset switch has been included. Snoopers are catered for in the sprite viewer which lets the user cycle through all the possible sprite frames. These can then be saved for use with the sprite editor. This simple editor is easy enough to use, although it can only handle one

"Using this you could make up your own "Wizball Meets The Mutant Commandos In Pacland" game, if that's what turns you on."

sprite in memory at a time which makes redefining a main character for instance a long process. Once you have altered your sprite, it can be loaded back into the game. An alternative use for the sprite viewer is to swap sprites between games. Using this you could make up your own "Wizball Meets The Mutant Commandos In Pacland" game, if that's what turns you on. (It might turn anyone on!)

A monitor is a must for anyone wanting to back up programs. With a basic knowledge of machine code and the 64, this will allow you to assemble, disassemble, compare, list any part written in BASIC, or, fill, hint, search, increment, modify, convert hex to decimal and vice-versa and save specific memory locations. Any output from the monitor can be re-directed from the screen to a Commodore serial printer.

Disk users get the opportunity to save hi-res screens. These can then be loaded into a graphics program where they can then be altered. There is also a file converter which will allow you to convert Koala, Artist 64, Vidcom and Blazing Paddles to be compatible with

"Screens can also be saved and displayed with the RUN statement from BASIC."

each other. Screens can also be saved and displayed with the RUN statement from BASIC. Unfortunately, altered screens cannot be replaced in the original programs.

A utility disk is available which includes routines for cheats and back-ups on a large amount of single and multi-load games.

Most of the functions take the form of a monitor, with different commands available in each. Its only real annoyance is having to load each operating system before use. If a lot of different features are being used in succession, the loading and programming would get rather tedious. This aside, the Expert is a very powerful combination of hardware and software which, because of its broad range of applications, will find considerable favour with a wide range of users, from the dedicated gamer to the serious programmer. Highly recommended.

T.H.

Price: £29.99
Contact: Trilogice Unit 1, New Works Road, Low Moor, Bradford BD12 0QP.

Adventure

ANDY MOSS OPENS ANOTHER PAGE IN THE ADVENTURERS HANDBOOK

Welcome adventurers far and wide to another month of news, views and reviews on everything Adventure. Many thanks for your letters, an a special thanks to Martyn Westwood who has the destinction of getting the highest marks so far for a home grown adventure. His "Dance of the Vampires" was written using Incentives GAC and is truly a testament to what you can really get out of the system. The only reason you did not quite make that magical nine mark Martyn is that there were quite a number of spelling errors in the game, which is a shame as they spoil the wonderful atmosphere you create. Still, your next game, "Dead End", if it is as good as you say it is, should get top marks! I will wait and see.

In this month's section, I review some tasty new releases, namely Infocoms SHERLOCK and Activision's MIGHT and MAGIC. First off though, I would like to ask a question. With the news that Infocom will be moving into graphic adventures, it begs the question which is preferable. For me, I am sure that most of you know that unless the graphics are either hiding clues or of particular interest such as prompting an exciting atmosphere, then you can frankly keep them. I much prefer to use my own imagination to picture a scene rather than have it ruined by a pathetic line drawing that has no substance whatsoever. More and more, software houses are putting pressure on adventure writers to have graphics included otherwise the game "won't sell". What utter rubbish! Level Nine's best selling game is still Dungeon Adventure and that is pure text. If Infocom feel that to maintain a successful product line, they have to move into the graphics market then somebody is telling them that unless they change no one will buy any more. Again, rubbish. Any Infocom game is worth its weight in gold purely on the strength of its normally very innovative storyline. Please let us get back to the days when adventures were fun to play for the atmosphere, and not just pretty pictures.

ADVENTURE NEWS

LEVEL NINE GO MANDARIN

Time and Magic, Level nine's trilogy, will be released in April under the Mandarin label, the new house set up by Database. Formerly with Rainbird, the Austin brothers have chosen Mandarin for a one off, and will monitor the situation, with a view to continuing with some more releases later. Time and Magic will feature up to 60000 words of text, 700 locations, a five fold increase in vocabulary over original versions, RAM save/UNDO features, a 10000 word manual and a sophisticated new packaging design. The trilogy will be made up from The Price of Magik, Lords of Time (one of my all time favourites) and Red Moon, and will retail at £14.95.

RUMOUR OF INFOCOM/COMMODORE COP OUT

Rumour is rife at the moment that Infocom plans to cease all publishing of C64 version of their games. Apparently sales of Commodore 64 machines have drastically slumped in the States whilst 16 bit has boomed. This has led Infocom to alter their release strategy. At the time of going to press, Activision, Infocom's UK parent company declined to say one way or the other, just simply that they "have not heard anything about this but will look into it". I hope for all the 64 owners in the UK that the rumour is false.

ACTIVISION SIGNS UP MICROILLUSIONS

Under a two year contract, Activision will market all entertainment products by Microillusions including the company's very successful "FAERY TALE ADVENTURE". This game which at the moment has only been seen for the Amiga, but will shortly be available for the 64, is a graphic animated role playing adventure where the player travels through a land of dragons, wizards and princesses, sharing in the quest of three brothers.

Also scheduled for release is a game entitled 'ROMANTIC ENCOUNTERS AT THE DOME", a true life adult encounter for men and women, where you can permit your wildest imagination to interact with the enticing scenarios of the DOME. Sounds very interesting. Well done, Activision for having the insight to pick up a company whose

products have been getting rave reviews, but only available through importers.

DREADED INFOCOM BUG SPREADS

The load/save bug on Borderzone that was first discovered by yours truly, and which got Infocom into a right tizzie, has also been spotted in SHERLOCK THE RIDDLE OF THE JEWELS by yours truly again! This has again been forwarded to Infocom (as Activision cannot seem to reach them on the phone) and once again a tizzie has ensued. I am reliably informed that only the first few copies that were shipped carried the bug and that all since have been rectified. Another point for the good guys!

GRANDSLAM SECURES DATASOFT

A three year deal means that the publishers of such classics as ALTERNATE REALITY have now a much closer UK and European marketing source than the previous US Gold tie up. In fact a new chapter of Alternate Reality is sheduled for an Autumn release.

INCENTIVE SET TO RELEASE DRILLER SEQUEL

After a long wait a new Freescape game is imminent. Set many years after Driller times, it revolves around the revenge that the Ketars are planning on Evath. On the dark side of Evath's oter moon Tricuspid, a giant weapon Zephyr one has been constructed aimes to blow Evath to bits. Your mission is to stop the destruction, amongst other things like a variety of sub plots etc. Driller was great fun, and this should be worth waiting for.

A PERSONAL SERIALISED GUIDE THROUGH BARDS TALE...

THE SEWER level 1

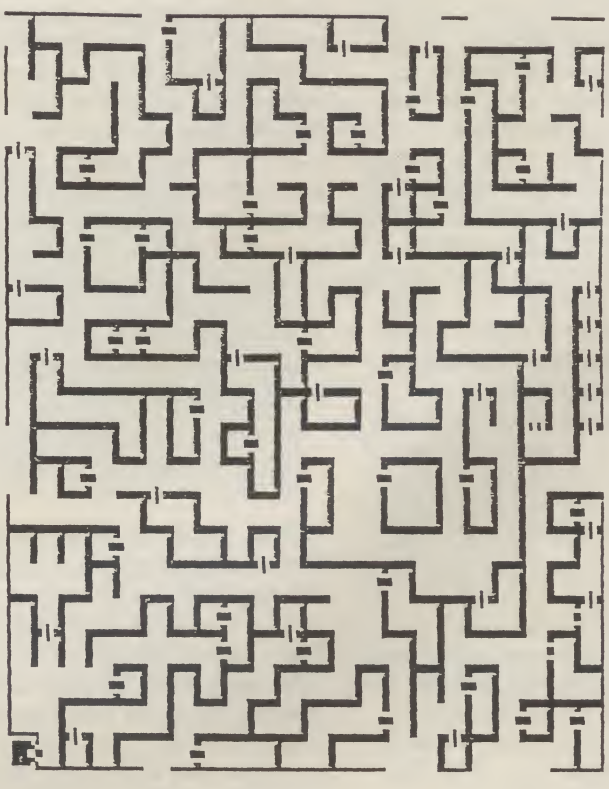
We are in a mucky stinking sewer, and the beasts and blackguards who attack us are too numerous to be described. Here we gain much wealth and our skills are honed like fine steel blades. As we explore, we discover strange writings on the walls of this foul hole. I will record them faithfull here —their value will perhaps become clear later on in our travels.

"PASS THE LIGHT AT NIGHT" A cryptic verse indeed, this sewer conveys messages the same as the fat barkeep above us.

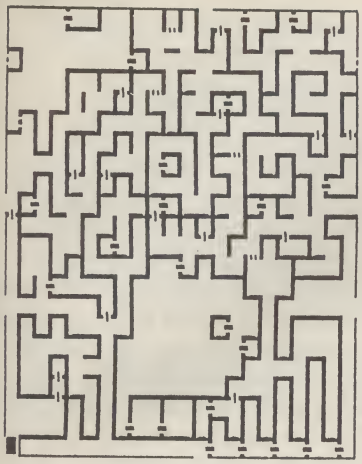
"IRKM DESMETDAEM" I am no scholar, but neither am I a stranger to lore and letters. I can precieve no sense here.

"GOLEMS ARE MADE OF STONE" Is this meant to lighten our hearts against a fear of encountering a golem made from rice pudding perhaps?

This sewer abounds with sorcerers' tricks. We were teleported to different locations and spun about unknowing, all at the whim of magic foul. I am told that we are indeed fortunate to have among us the last of the great sage sorcerers, for he can divine our location at all times and has even provided us with rough maps of each wretched dungeon as we enter it. We have found our way through devil darkness that no spell or flame can penetrate. There is a stairway in the midst of this darkness, leading down into further stench and blackness...



The Sewer



THE SEWER... level 2
Cunning and deadly traps have claimed the lives of two gallant Paladins. We have been constantly besieged since our entry into this noisome pit, and have borne many injuries. Burned hands from light rays are one menace, for which I feel responsible, since this is the reason for that message "Pass the light at night". We waited until the setting sun made the beam fade and then passed through.

There are some more messages here:

"HEED NOT WHAT IS BEYOND UNDERSTANDING"
We encountered a vile, magically-created set of lips which spoke "Know this, that a man called Tarjan thought by many to be insane had through wizardry proclaimed himself to be a God. His image is locked in stone until made whole again" I forbade our magician to take the obscene thing with us, as it would serve no purpose. The only apparent means to descend to the level below is through the use of portals that reek of sorcery. The magician will levitate our party down through the Portal... TO BE CONTINUED NEXT MONTH.

MAILBAG

Dear Andy
I am stuck in Guild of Thieves in the Bank's office, where I should open somehow the vault door. I suppose that with Lute and certain words it should happen something (I know who to fly). But how? Should I take hand of the door... Where do I need Mynah Bird? I have her with me all the time. And a cube I have in my pocket. Score is very close of end 445/501
Juha L, Finland

It must be difficult for you to speak English Juha, so well done on translating your letter into our language. The secret of the Bird is to get it to say "HOORAY". This you do after placing the bottle of champagne near the vault door. For, when you say hooray, the bottle will explode taking the door with it, and voilá, you can go into the vault and finish.

Dear Andy
I need your professional advice. I have been playing Guild of Thieves for a very long time, but I still haven't solved it. 1) How do I get to the moat? 2) Where shall I use the Lute if not to fly across the moat? 3) I have 365 points. I have only said five words to the Minah bird. Why can't I get into the Bank? 4) how many valuables do I have to put into the Bank to get inside? (I have put 14 in)
Thank you
Bjorn Magnusson, Sweden

Thank you for a beautifully printed letter, very artistic! Right, the answers in order are 1) In junk room, move junk to find an exit to moat 2) Levitate using the lute to get into vault 3) More treasure means more points in the night safe 4) There are 15 treasures in all and for your convenience ere they are:

FOSSIL, OIL PAINTING, CHINA POT, RING, DRESS, RUBY, BAG, CHALICE, PLECTRUM, RHINO, INCENSE BURNER, STATUETTE, BROOCH, MINERAL CHIPS AND GEM.

Dear Andy
I have just started playing adventures and don't know much about it. So I went and got a few back issues of CCI to get an idea of the adventures around now.

But I am still in the dark so I'm writing to ask could you make a list of adventures for myself the beginner. P.S. I think your pages are really great.
Warren Prydderch, N Wales

Adventures have really become quite sophisticated nowadays, Warren. What with multi-task sentencing and complex plot lines that let you wander around for ever without getting anywhere. So for a beginner, I would recommend older style adventures that follow a more linear path through, which let you master the art of mapping and clue-finding first rather than let you get involved in a hulking great plot and get hopelessly lost. Also, these games only require a verb/noun answer which simplifies things a bit.

Try Early Scott Adams titles such as The Count or Pirate Adventure, to get you going then, say, Lords of Time which is really nine different small adventures in one game, The Boggit or St Brides' games are a fair buy. When you have solved two or three of these, move on to the classic The Hobbit by Melbourne House which was the first of the more complex Parser/location releases. After that you should be well qualified to have a go at anything.

Dear Andy
I am having trouble with the C16 version of Finders Keepers. I cannot get rid of the cat to go through the exit. Can you help.
Steven Veitch, Edinburgh

Frankly Steven no, cos I haven't played that one, but perhaps some readers have? Anybody care to write in with help?

ADVENTURE REVIEWS

SHERLOCK THE RIDDLE OF THE CROWN JEWELS
INFOCOM £19.99
So here it is, the first Infocom "franchise" so to speak, by that I mean the storyline and concept was completely written by Challenge Inc but using Infocom's adventure system,

development software and packaging. What does this mean to the player? Not a lot really as the game plays exactly like any other Infocom game complete with built in Invisiclues. The built-in hint guide idea will now feature in every game due to the theory that the quicker the adventure is solved, the quicker a new one will be bought, so gone are the months of frustration waiting for the solution. Sherlock as an adventure works very well, with you playing the part of Watson who, for once, is the lead with Holmes following. This is because the famous detective has deduced that the evil Moriarty has set a deadly trap, and by letting Watson lead the investigation will upset the arch criminal's plans.

The story is about the Crown Jewels which have been stolen from the Tower of London just before the Queen's Jubilee celebrations. If they are not recovered before the festivities begin, then the Government will be disgraced.

All the locations are famous London landmarks, and a map of Victorian London is provided, along with a reproduction of the front page of The Times dated 1887.

Within the game are some riddles which, when solved, will lead you to specific locations. It is at these locations that further clues will be discovered. A very neat scenario takes place within Westminster Abbey, and careful mapping here is essential. Here you find many tombs of famous people and monarchs such as Charles Dickens and Henry V, and the Puzzle is working out where the cryptic messages are hidden; and very cleverly hidden they are. There are some very witty lines from Holmes on certain occasions, as on loading a saved game he will say "Where have you been?" or "Now may we proceed?". If you ask for a hint you get "Oh if you must!" and other such sundry remarks. The game really wins out with the script, and well done to Challenge for constructing an imaginative story that complements the Infocom system beautifully. I liked it a lot.

PERSONNEL RATING ... 9

MIGHT AND MAGIC
Activision £19.99

What is the secret of the Inner Sanctum? Is the line that prevails from the packaging of this role player from New World Inc a new American house Activision are promoting. Might and Magic, features 94 spells over 250 magical items and more than 200 monsters. It reacts differently to each player and no two games are alike, and to reach the inner sanctum you will have to cross oceans, mountains, castles and dungeons all depicted in 3D Perspective. You may gather from this that I liked the game a great deal. You are right I did, but there is one bad piece of news. It seems that you have to copy the character disk before playing the game, which ordinarily would not be a problem as let's face it, like it or not most role playing games require a separate character disk. The problem is that the game does not have a copy program built in so unless you know how to copy your own disks you cannot play the game!

What is included in the package however, is a beautiful colour 18" x 12" map, a thick well documented manual, and thoughtfully, a pad of dungeon mapping grids with spaces for notes. Once going the game plays quite fast, and the large colourful graphics work very well especially the drawings of the monsters which really do look rather fearsome. The actual quest apart from finding the secret of the Inner Sanctum is in fact numerous quests that will be offered by characters in the game. What I liked about the game is its total user friendliness and its need for you really to understand what is going on.

I heartily recommend Might and Magic, but first go and buy a copy program!

PERSONNEL RATING ... 8

DANCE OF THE VAMPIRES
Marlyn Westwood £1.99
26 Goathland Place
Woodhouse, Sheffield
S13 7TE

Written on the GAC comes the best home made adventure I have seen. The graphics are truly atomspheric, and the subject, although done to death many times in the past, carries a certain freshness to it by the way it is written and the clever use of objects/puzzles. You start off in a carriage on the way to the Castle, here is very reminiscient of Rod Pike's work from either Dracula or Wolfman, where the flavour and terror of the local community is very apparent right from the start. Marlyn builds the atmosphere very well, and has created a whole host of interesting characters to interact with. The adventure is in three parts, and although each part is not particularly lengthy in locations, the descriptive text more than makes up for it. There is another game planned called "Dead End" which is a forties style detective thriller that Marlyn promises "will be a substantial improvement both technically and in the storyline". He will be showing it to many of the recognised software houses for marketing, and I for one will look forward to seeing a copy.

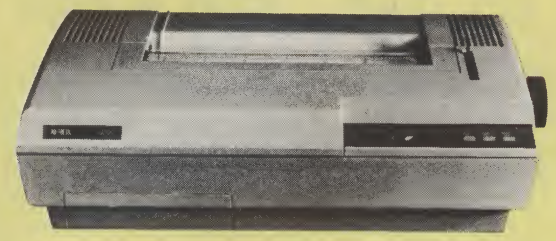
Well done, Marlyn, for a great game only marred by some silly spelling errors which have cost you the magic 9. Keep up the good work

PERSONNEL RATING ... 8.7

THATS IT FOR ANOTHER MONTH ADVENTURE FANS, NEXT ISSUE PART 3 OF BARDS TALE SOLUTION AND SOME HEAVY HINTS, AND A REVIEW OF SORCERER LORD. KEEP THE LETTERS COMING AND TELL ME ABOUT YOUR PREFERENCES ... ROLE PLAYING OR TEXT ADVENTURES.

Adventure!

with the



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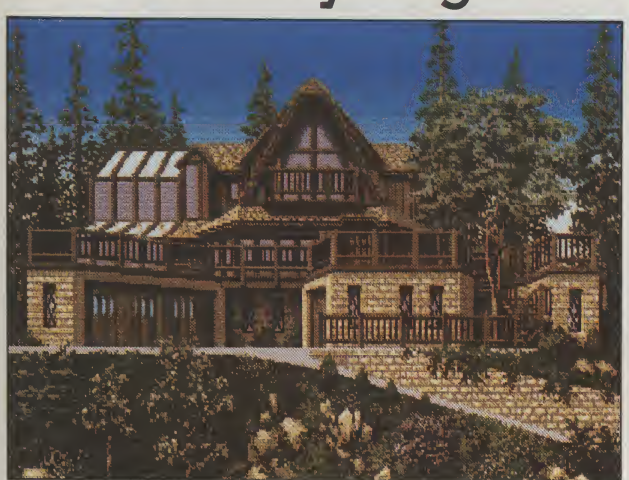

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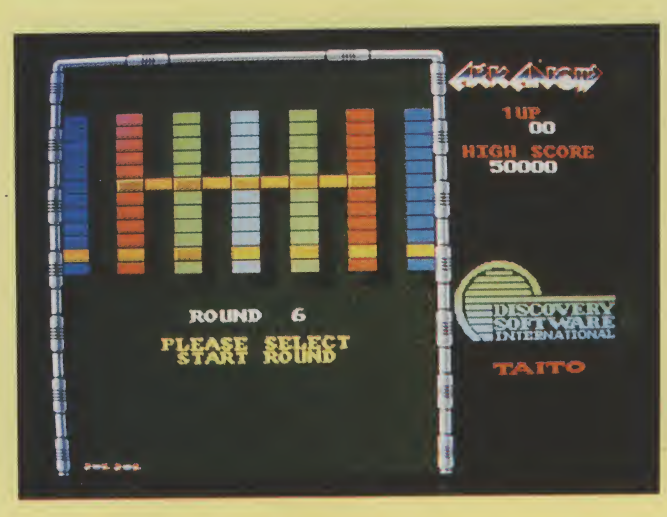

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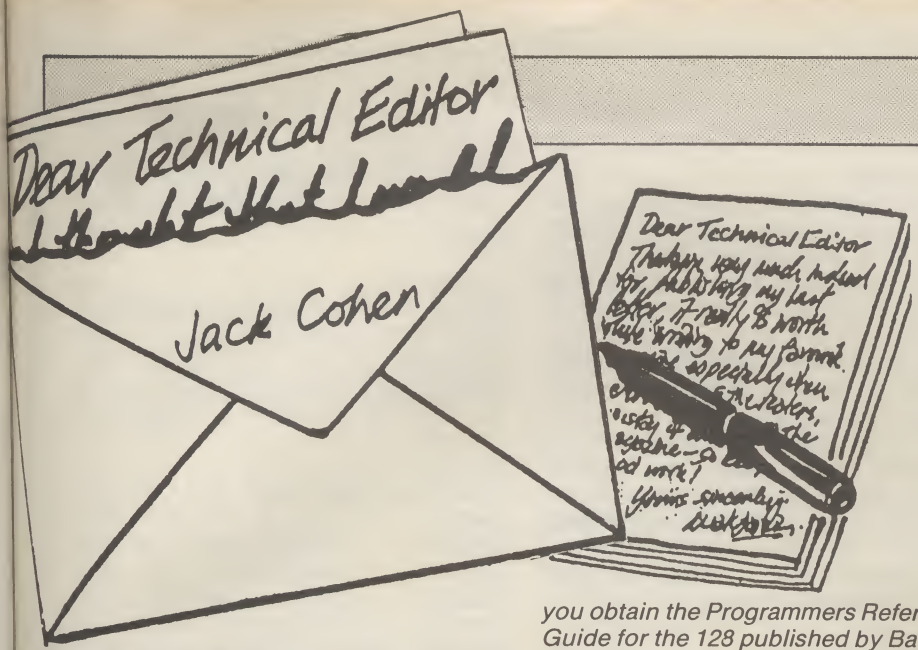


Dear Technical Editor,
I am currently trying to learn assembly from a Commodore sixty four book.

The problem is I have a Commodore 128 and I cannot afford an assembler and so I am using the built in assembler.

I am convinced that the memory locations are different. For example, my book advises me to store my programs at $C000.

Whenever I use this location I have nothing but problems. The main problem is I was told the interrupt address ($EA31) was stored in Lo/Hi form at the two addresses $0314 and $0315. So changing the addresses to Lold 00,25 should jump to my interrupt.

So I wrote this monitor:

```
.2000 SEI
.2001 LDA#00
.2003 STA $0314
.2006 LDA#25
.2008 STA $0315
.200B CLI
.200C RTS
```

and then at 2500 I wrote this:

```
.2500 LDA#+16
.2502 STA $0400
.2505 LDA#+1
.2507 STA $0401
.250A LDA#+21
.250C STA $0402
.250F LDA#+12
.2511 STA $0403
.2514 JUMP $EA31
```

Unfortunately the screen just clears and BREAK is written down the side of the screen, where am I wrong. Please could you print a 100% accurate 128 memory map, as everything I write usually works unless I have the wrong addresses which I usually do.
Yours faithfully,
Paul Ross

Dear Paul,
This code will not work in 128 mode because although locations $0314 and $0315 contain the pointers for the IRQ the routine is not as straightforward as on the 64. They point to JUMP table and not to $EA31.

To print a complete 128 memory map would take many pages so I suggest that you obtain the Programmers Reference Guide for the 128 published by Bantam Books. I consider this book to be far more informative than any previous Commodore manuals. It has a fair amount of the 128 memory map though not all, and the kernal routines and memory management routines are explained. Other sections contain sufficient to whet the appetite and I am sure that many books have and will be written to expand on those sections.

Dear Technical Editor,
I am the owner of a CBM 64 and use a database from Supersoft called Instant Recall. The problem I have is that I need to secure all the data so that nobody else can read it. Is there any way of putting a password on the disk or a block so that nobody else can read it except myself?

If this is not possible do you know of any database's that I can use where the data can not be read if it is stolen?
Yours hopefully,
Mr. C. Willis

Dear C. Willis,
There is no expert-proof way of protecting data. The best that can be done is to protect from all but the expert and this will require changes to your database program. I suggest that the best security is to keep your disks in a safe place.

Dear Technical Editor,
I hope these queries are not too simple for your column, but I am a struggling novice who has overstretched his 44yr old brain by starting to learn about computers on a C128 as his first computer. I've read a lot, much of which I don't understand yet, but I have been unable to get much screen time as either the kids are using the computer to play games, or Mum wants the tele.

Firstly, using Trojan's CADMASTER, how do I get my Citizen IDP 560 printer to print the screen? All I can get is brackets and odd characters, as you can see on the enclosed printout. I obviously need to pre-program the printer, but I admit that other than straightforward listing, the rest of the printer facilities are baffling me as yet.

I don't require any comments like 'Nobody uses 560 printers!' It's better than nothing, and I couldn't resist it at £29.95. It saves a lot of writing of the collection of odd useful routines that I am slowly building as I learn, and to be honest, it has far more facilities than I expected for the price, and two colours to boot. I think it's a little marvel, or it will be when I've figured out how to use it fully.

Secondly, I enclose a listing and a run of a program taken from the 'Tutor' that I am using. Everything was going well until the program was modified to include the PRINT USING facility. The Tutor told me that this facility was not available on the C64, so as an experiment, I tried it in 128 mode, and found that it worked OK. However, after many tries, I have found that on loading the program from tape, it will not run. I get a SYNTAX ERROR in 80. If I re-type line 80, it gives SYNTAX ERROR in 84. If I then re-type line 84, the program will run. I have re-saved and verified the program many times, but still the program will not run unless lines 80 and 84 are re-typed each time after loading. Can you throw any light on this for me, as the PRINT USING facility seems to be quite useful, but not if every line containing it has to be re-typed every time it is loaded.

One more query before I close. Again using CADMASTER. With DRAW selected and the pen steady on the screen, the cursor wobbles. This makes accurate freehand drawing impossible. Do you think this is a fault in the program, the pen, the computer, the TV, or me?

Many thanks for reading this, and I hope you can get back down to my level to offer some advice to a keen, but slow, hopefull Hi-Res artist. I'm not too interested in playing games, but I'm facinated by how they are put together and made to work.
Yours hopefully,
J.W. Marsden

Dear J.W. Marsden,
The Citizen IDP 560 (yes I have one!) does not have a hi-res mode and therefore the screen cannot be dumped to the printer.

'PRINT USING' is recognised as a keyword only in 128 mode as you have found. If you save a program containing this to tape in 64 mode then the keyword will not be tokenised on tape.

When re-loaded into the 128 the words 'PRINT USING' will not be taken as a keyword until the lines 80 and 84 are re-entered into memory by pressing RETURN on those lines. This will substitute the token in memory (in the monitor) for the text loaded from tape. Save the program to tape in 128 mode to correct this problem. Make sure that you re-enter lines 80 and 84 first.

Using a lightpen is not precise enough for accurate freehand drawing for most people.

Dear Technical Editor,
I own a Commodore Plus 4 computer and a 1551 disk drive. I recently bought a Commodore 64 computer, and although the disk drive manual says it will work with the 64 I am unable to connect them as the 1551 connects via the memory expansion port, which is different on the two computers. Is there any way round this or is it possible to convert the disk drive so it connects via the serial port instead?
Looking forward to your reply,
Linda Hawkins (Miss)

Dear Linda,
Despite what the manual may say it is extremely unlikely that anyone will produce an interface to use a 1551 with a 64. Only about 2000 1551's were ever produced and therefore the market for such an interface would be very small and not justify the work involved.

Dear Technical Editor,
Please HELP, I have a 1541 with a broken lift arm, having rang Commodore they told me they no longer supply spares, try HRS Electronics working in Birmingham they were local, They took my name and address and said when they came in they would inform me, that was 18 months ago, and now HRS tell me this spare is not available due to the 1541 being obsolete. Where can I get a replacement lift arm from???
Yours hopefully,
Graham Kyte

Dear Graham,
You can try DB Electronic Services 0245-260874 or Microport on 01-953-8385 (London) or Microport on 07783-6433 (Peterborough)

Dear Technical Editor,
I am the proud owner of both C64 and Plus 4 machines. I have several utilities and interfaces that I use frequently on the C64 and would love to use these on the Plus 4 machine, with minor modification to the coding.
Unfortunately I have been unable to find any information on the Plus 4 user port; i.e.
1) Are the connections to the user port the same on both machines?
2) What are the associated data direction and port control registers for the Plus 4?
If you could please supply me with this information, or its source I would be very greatful.
Also what literature could you recommend which gives a COMPLETE memory map of these machines. I have the C16 reference manual from Anco but although very helpful it is very sketchy on the Plus 4 above 16K.
Yours sincerely,
Philip Coe

Dear Philip,
The connections are not the same. This is because the Plus 4 does not have a User Port, but it does have a 8 bit input/output port. This is accessed by using the 7510 on chip registers as follows:—
Data Direction Register is at memory location 0 and the actual PORT is at memory location 1.
I have not heard of anyone selling a complete memory map of the Plus 4. If you can obtain the Programmers Reference Guide for the PLUS 4 from a good computer bookshop then this contains a good section of the memory map plus details of kernal routines.

Dear Technical Editor,
I have a C64 and find it very good, I bought a Software package for it last august, in the Isle-of Man. The program I bought is called Superfile 64, from Tynesoft Ltd, they have a lot of information in their manual, but I find one thing wrong. They say the number of records for file is only limited by the length of tape on my cassette. When I write more than 10 records, and save them I get a "string to long" from the computer, I find I can only save 9 or less records on tape at a time.
I find that no good when I have about 150 names and addresses to put on record. I wrote to the company in question but got no reply, Is it possible for you to get this program and try it and let me know what I am doing wrong.
Hoping to here from you.
Yours faithfully,
Wm Conroy

Dear Wm Conroy,
This seems like a software bug in the program. If you cannot get a reply from Tynesoft then send a recorded delivery letter asking for a working copy or your money refunded and a copy of the letter to the shop where you purchased the software, together with a letter to say that if satisfaction is not received from the manufacturers then you will expect a refund from the shop.
If you follow the instructions in the program then the program should not crash. Strictly speaking it should not crash whatever you do, but this is difficult to control when using cassettes.

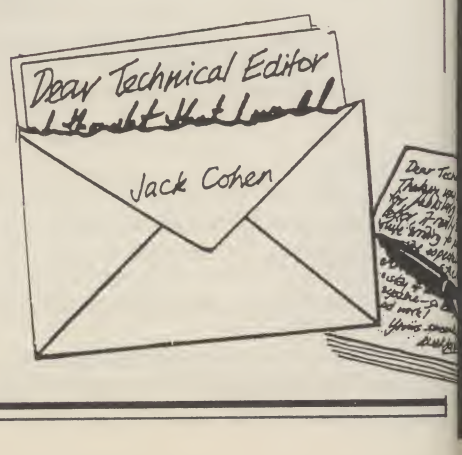
Dear Technical Editor,
I've been wondering whether you could advise me on what Commodore 64 repair services are reliable. I have recently seen an ad called 'Video Vault' is it reliable if not could you please print some reliable services.
Yours,
John Canavan
P.S. Please print this letter because:
1) Its my first time writing to your mag.
2) I'm desperate to get my 64 fixed and it may help others in my situation.
3) I am a dedicated reader of your superb mag since November '84'. Please keep up the good work.

Dear John,
We have not had any complaints about the service you mention. Why not try DB Electronic Services of Chelmsford on 0245-260874 who offer a repair service for most Commodore machines and printers.

Dear Technical Editor,
I was most alarmed to read in the April edition of CCI that drive alignment problems are caused by the head hammering against the end stop. I own a 1541 for use with my 64 and as yet I have not had any problems, but every time I format a disk I get the hammering noise for about five seconds before the formatting commences. Is there something wrong?
Yours faithfully,
R. Mark Denby
P.S. What are the symptoms of disalignment which we hear so much about?

Dear R. Mark Denby,
It is not the noise that is the problem. It is the shifting of the end stop caused by the head banging against it. Shifting the end stop means that the drive has an incorrect reference point to use in finding where the directory track is actually located. It follows that the symptoms of mis-alignment are difficulties in finding the directory and loading programs.
It may well be that if you do not use commercial programs then you may not notice this fault until you load either an old program or a commercial one. Either use an antibump program (available from such as ICPUG for members) or use a spot of strong glue on the end stop. But not if the computer is under guarantee.

We welcome readers letters on all subjects but reserve the right to shorten or print only part of any letter, if necessary, for reasons of space.



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Jeff Minter posulates the God Program and Direct Neural Input and suggests reality may just be data fed to us by a computer . . . As usual the Welsh Hills are buzzing with ideas.

Yow. Hello again. Suddenly, Spring has come to the Cych valley and it's getting harder and harder to get any work done — I mean, you get up and find that there's some groovy solar activity going on outdoors, so why should you go sit in a semi-darkened room with your nose three inches in front of a VDU all day?

I've been well into the 'code, I've all but finished 'Space II' after a year of work (!) and I've just got the macro-load and some final debug to do. I'm aiming for completed code to show at the Atari Show in two weeks' time. THEN I have to write the documentation, which is going to be a Big Task . . . I've been relaxing with 'Sidewinder' on th' Amiga, ZAP ZAP KERPOW or what??? I love it!! I've also resurrected a once-flagging Arkanoid addiction, but my Game of the Month isn't on the Amiga, it's Fantasy Zone II on the Sega. If you thought FZI was trippy wait'll you see FZII!

This month, I've decided on a little more SF-type speculation on the possible futures available to us as the relentless tide of micro progress continues. With my piece on the Atari Discovery machine I was looking just tens of years ahead. If you look a couple hundred years ahead, and allow for parallel advances in other technologies as well, the future begins to look a LOT more startling...

Within 200 years, we can all be gods.

I've made passing mention of the God Program before. Here's how it COULD work...

First, we need some fundamental understanding of how the human brain functions. Specifically, we need to isolate the five sensory input channels and find out how they are encoded. This isn't as far-fetched as it might seem; I'm not saying that we need to find out anything unduly complex, like how thought works, or how the brain stores memory; we need to look at (for example) the signal coming out of the optic nerve and find out how that signal corresponds to the image received by the retina. Eyes and ears are not themselves as complex as the brain; they're complex electro-mechanical devices, and with enough research we may just find out how they encode the data they receive.

Okay, let's postulate that we found out how the sense are encoded. The next stage is direct neural input — instead of looking at a screen with an image on it, the computer could be hooked directly into the optic nerve and the image data from the machine encoded such that the brain interprets it directly. Graphics on such a system would replace 'normal' vision and have 'perfect' resolution — that is, anything the brain is capable of resolving, you would see. The pixel would be a thing of the past.

Extrapolate this idea to cover the rest of the senses and you have five-channel DNI. Hook this up to a really powerful computer running an advanced version of the World Simulator which I described in the Atari article. You've just created yourself a personal reality.

(I had an argument with a chap down the pub about DNI. I was trying to explain the whole God concept, and he kept saying 'but it wouldn't be REAL!' But what is reality? All we use to function, all we have to go on, is the flow of data coming in over our five sensory channels. Oue entire perception of the world boild down to a series of nerve impulses from our sense organs. Replace all five channels with DNI input, and that input becomes reality. It IS reality).

Now, allow us to communicate with the computer that's generating our new reality. If we went to go really far-out, we can postulate 'mind-control' — you think of something, the computer assesses your thoughts and generates whatever you require. Of course, this requires a little more than decoding of the sense inputs — to do thought-control you've got to understand what thoughts are, and that's likely to be a little difficult, at least at first. There are simpler ways — for example, sample the outputs from the brain to the motor nerves and feed this back into the computer, and any action you attempt to make with your 'real' body will be reflected in the actions of your 'simulated' body, and you can forget the necessity of any 'mindreading' by the controlling computer. You tell the computer what to do by traditional human methods of communication — voice, written word, whatever.

So now we have our own reality, we can move around in it and communication with the machine generating it. You want to fly? Just ask the computer. You want a word with purple skies, populated entirely by intelligent llamas? Ask the machine and it will be given. (For a pretty good idea of what it could be like, I would recommend Moorcock's 'Dancers at the End of Time' books).

Fine, we're nearly gods — we have our own worlds and we can do anything we want within them — but we still lack one characteristic of godhood — Immortality. We're still dependant on our 'real' bodies here in the 'real' world.

So — and this is something I have talked about before at considerable length — e use neural-net-image transfer to place our functioning brainstate within the controlling computer and discard the animal shell. Place the whole system in orbit and power it from the Sun, and you're as near as dammit immortal.

Okay, this is getting pretty far-out, but even simple one-channel DNI would be pretty amazing, and given that study of the brain yields some useful results, I don't see why at least some of these ideas shouldn't come to pass. This could be the 'next stage' of human evolution — each man a God . . . .

(And who's to say that the reality we currently enjoy isn't being fed to us all by some computer? I can just imagine the program listing: 10 LET e=M§C2) . . . .

Back to the real world. Me for a fag and a cup of tea and sit in the sun by th' stream a bit. Enjoy your individual realities . . . . **JM**

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10 GREAT GAMES II

This is Gremlin's most recent effort in the "great compilation competition", and contains some games that are extremely recent.

The first game on the tape is the licence to the imaginatively named, Deathwish 3. You play the role of Paul Kersey (Charles Bronson), a vigilante who takes it upon himself to rid New York of the 'punks' and 'creeps' who infest the city.

At the start of the game you are given four weapons, and so you start your patrol. The best strategy is to shoot first and ask questions later, though sometimes you end up shooting innocents or policemen, this, as well as getting shot by the bad guys decreases your energy — shown as a bullet proof vest (holes appear in it). The main aim of your one man army, is to find the gangleaders, dotted around the city, and dispose of them. You find them by viewing a map, on which they are marked down.

Not a brilliant game by any means but worth an hour or two playing time. Besides, the musk is great!

Convoy Raider follows your efforts to protect the free world, using a vast array of weapons at your command. What this means, when you translate it from hype language is that, there are 3 basic game ideas. The first of these games is a Beach-head clone — but is more basic, with very blocky graphics and grating sound — don't bother.

Then there's the missile stage where you try to shoot other ships, it raised some interest for a while. The last section is the one where you are in a helicopter and you must blow up submarines, using depth charges.

The Samurai Trilogy is a Karate game, in which you compete wih masters of the art of Karate, Samurai sword fighting, and Kendo, in order, to become a Samurai Warrior — the ultimate masters of the martial arts.

Before fighting you must train and have mock battles against images of your opponents to put you in readiness. Then, you must allocate five points between your main attributes, and hope you have done it wisely enough to win the fight.

I enjoyed this game quite a lot and especially liked the Samurai sword fighting section at the end of the game. The sound isn't terrific though, and, the graphics have aged slightly.

Jack the Nipper II, is the last game on the first tape, and continues the exploits of cute little Jack, a baby, who tries his damndest to annoy and persecute anybody silly enough to take notice of him.

He begins his adventures in the jungle, and you soon find that there are many objects to pick up, and lots of things to do with them. This adds an extra dimension to the game which is pretty good anyway. You can have fun, throwing coconuts at the natives, and swing through the forest on ropes to get away, you can enter caverns and cause trouble, or you can just settle for trying to rake up a really high score, the choice is yours so go for it. Classy graphics and gameplay make this one of the best games on the compilation.

Basil the Great Mouse Detective is the license of the cutesy Walt Disney cartoon and chronicles your attempts to rescue Dr. Dawson who has been kidnapped by your arch enemie Professor Ratigan.

Your search leads you to the waterfront district in London, where you begin your investigations. You must examine all manner of objects in the hope that they might be clues to lead you to your friend, and only when you've got the right clues, can you go on to the next scenario; the sewers. and then finally on to Ratigan.

This is a very pleasant game obviously directed at the younger end of the market, and, unlike many other examples of licensing,

shows a lot of thought and good programming.

Re-Bounder, has to be one of the friendliest games I've ever played, and I found that its humour and music actually encouraged me to play more.

deserves to be in every '64 owners collection.

Words alone can't describe the excellence with which this game has been put together and the music graphics and difficult

Overall the compilation rests mainly on the shoulders of Re-Bounder, Thing and Monty but

Gremlin

You are once again the famous tennis ball that made such a hit in Bounder, and now you're back with weapons, on a quest to find the overlord, and get rid of him. You have to use a lot of skill, just trying to bounce on the safe stuff. Add to that, hordes of meanies, different weapons, a choice of which direction to take, etc and you've got an incredible game on your hands.

Re-Bounders got everything, graphics, sound and gameplay — an excellent game.

Mask — now you can get the game of the cartoon, of the toy, and join Matt in his task of rescuring fellow Mask agents. Unfortunately I won't be abel to tell you about this game because it didn't seem towant to load.

Thing Bounces Back is an out and out arcade adventure with great graphics, and enough screens to keep even the most avid adventurer happy for several days.

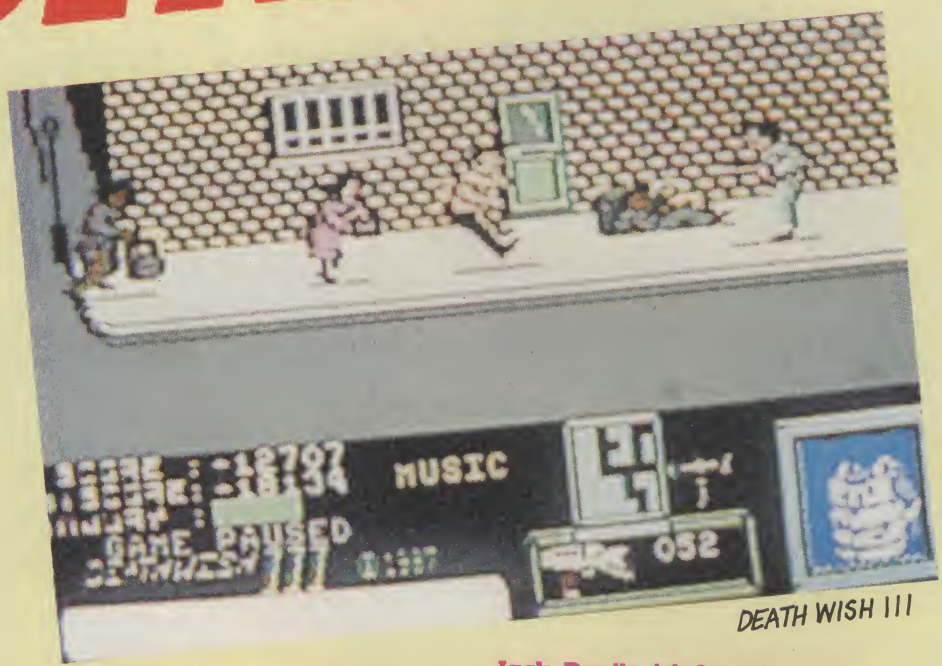
In your first adventure you destroyed, the evil goblin, now you must destroy his computer which produces evil toys. The control method is tricky to get to used to in this game, but once you do it rally begins to get fun.

I think this is mainly due to how lenient the game is with you — I'm not saying it's easy — just that it lets you get used to all the traps — like the suckers without paying too heavy a penalty. It's a very polished game and once again the music by Ben Daglish is brilliant.

Bulldog is a very dated shoot 'em up that looks like something which tried to imitate Uridium and failed.

This game is very boring but I can't help feeling that with a little more speed this game could have been very good.

Now we come to the penultimate game on the compilation and one of my all time favourite games — Auf Wiedersehen Monty. It is the ultimate in platform games and



DEATH WISH III

manouvres are all there to admire. A year after I first played this game and I'm hooked again. I suppose you can tell I like this game, I reckon you will too — the compilation contains a few naff games but this raises the level a hell of a lot.

Jack, Deathwish 3, and maybe Mask are very good as well. At the price just for those games this must be one of the best compilations ever for sheer value. Buy it!

C.K.

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BLACK LAMP

Firebird

A familiar story, not unlike that of the Amiga game Faery Tale sets the scene for Black Lamp. The kingdom of Allegoria was once a happy place. All this changed recently when the enchanted lanterns that kept the kingdom's people safe were stolen. Ever since, all the normally docile creatures have turned wild, attacking everyone they see. You play the part of Jack the Jolly Jester, who has agreed to make an attempt at recovering the lamps in return for the king's daughter's hand in marriage.

For Jack to embark on his quest with nothing but his trusty pig's bladder would be stupid to say the least, so he sought the help of Prairweezle, the local magician, who cast a couple of spells to give Jack seven lives and the ability to shoot bolts of magic from his belt buckle.

Starting in one of the many houses, you immediately come under attack from the kingdom's mutations and monsters. Wherever you start, you will notice a large area that looks like a doorway. This is in fact one of the twenty chests that are dotted around the kingdom. Your aim is to collect all the lamps one at a time and put them safely in the chests. Rooms in the houses and castle are seen as cross-sections, and so take on the form of a platform game. Leaving the rooms takes you out into the lanes and woods which scroll left and right rather jerkily.

Now and then you will find a big green dragon. All these dragons guard the black lamps, and are supposedly hard to kill. This is not the case however; constantly shooting its lower regions gets rid of it painlessly, leaving behind that black lamp. Trotting around, shooting the baddies could be a lot of fun, but is spoilt by their characteristics. They constantly wobble across the screen, firing blobs that are practically impossible to dodge. This means that if there is a monster coming towards you, most of the time you have no option but to face it and keep shooting, at the same time taking all that he is throwing at you. This is a shame, as it takes a lot of skill out of the game.

"The interior backdrops are rather dull in colour and design, and sometimes cause sprites and other objects to blend in and go unnoticed"

While most of the game is unremarkable, the music is immediately appealing. Its arrangement of notes may not be as good as it could be, but some very original sounds are used, the simulated harmonica in particular deserves a mention. Even so, some sound effects are always helpful in arcade games, but are something which Black Lamp lacks. More detail and animation in the sprites would have improved its looks, too. The interior backdrops are rather dull in colour and design, and sometimes cause sprites and other objects to blend in and go unnoticed.

Those who like a bit of exploration with their platforms could find something worth their while in Black Lamp, but I found the lack of action and limited scope for skill development off-putting, and so tedium set in sooner than I had expected, and, considering the price, Black Lamp offers limited playability.

T.H.

Graphics: 62%
Sound: 88%
Playability: 64%
Overall: 65%
Rating: IFFY

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9/10 x 1306
Lubalin on 'D'

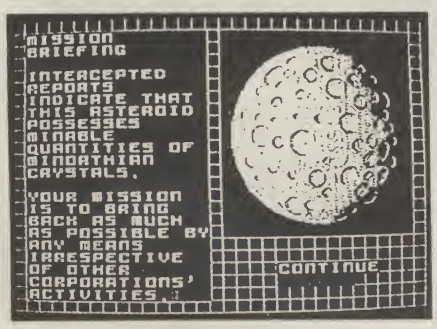
CORPORATION

ACTIVISION.

This might be considered a boring game. If you are a shoot 'em up fanatic you will find the game totally boring, if you are not you will yourself become totally boring through being addicted, hooked, glued to your computer. Not one for the zap, pow, kerunch brigade, Corporation is a fascinating real-time game of tactics. You will need to be very quick-witted as well as quick on the joystick if you are going to get anywhere.

The scenario is the future (3026 AD, to be precise). Nations no longer exist. Instead, all-powerful corporations rule the world and its dominions. Successful employment within a corporation means security and wealth. Failure results in dismissal — and certain destitution. (The instruction booklet does not indicate an affiliation to any political party! But you can use your imagination as to who the hardnoses are!)

You are the commander of a deep space mining team. Your job is to locate, mine and collect valuable Minorthian crystals on the surface of an asteroid which is plunging towards a sterile moon.



You start with 2,000 credits which you must use to purchase mobile remote units (MRU's) in order to carry out your mission. These you direct in their surveying, mining, transport and defence roles on the asteroid's surface. Each MRU can be either solar or fusion powered. Solar powered units cannot function in the dark but cost a lot less than fusion powered ones.

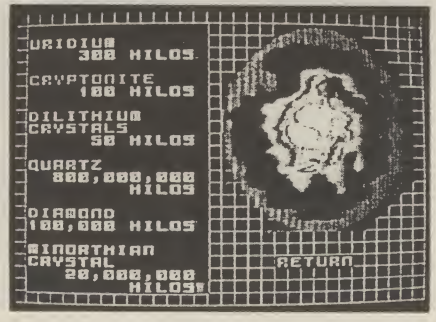
The screen is split into four sections — a large scale and small scale plan of the asteroid for you and your opponent. (Oh yes, there is a similar operation for a rival corporation mining there too.) The top, small scale, display shows the whole asteroid with your refinery's position indicated and the current square from the large scale plan highlighted. It also shows which half of the asteroid is in darkness. The large scale section is also divided into squares, each of which could contain crystals or could be unstable and therefore impossible for any but a surveying MRU to cross.

"If a unit other than a surveyor tries to cross an unstable square, it dies."

The MRU's are controlled by the joystick. Each unit can move up to 20 small squares in one move. If it tries to go through a unit already occupying a square, it stops. If a unit other than a surveyor tries to cross an unstable square, it dies.

The way to mine successfully is to traverse an area with a survey unit, which drops yellow beacons on crystal outcrops and blue ones on unstable ground. Follow this with a mining unit, being sure to traverse all yellow beacons and no blue ones. The miner leaves packages of crystals for collection and marks them with a purple beacon. Crossing a purple beacon with a truck unit means that the mined crystals have been collected. When a truck has collected ten packages, it must return to the refinery and unload.

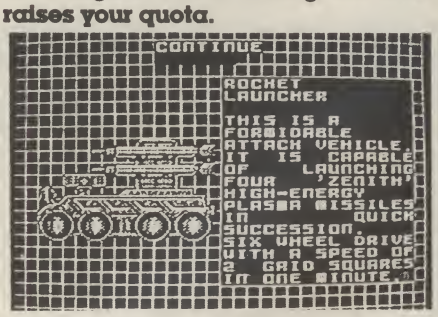
All perfectly straightforward, I hear you cry. The problems start when you forget where you left a particular unit and then waste time zooming around the asteroid trying to find it. Then there is the chance that one or more of your units might get shot up by the opposition. Or knocked out by meteorite showers. (You can, of course, shoot up your opponent's units if you like — quite ruthless, these futuristic corporations.)



As I said, a game of tactics. You can select to play a 12, 24 or 36 hour game (1 hour asteroid time equals 2 minutes terrestrial 1988 time). At the

"Entering a "success code" at the beginning of a game entitles you to a higher credit rating but also raises your quota."

end of that time, the computer will tell you whether you have achieved your quote and either issue you with a code to enter at the start of your next game or dismiss you from the corporation to claim your Social Credit. Entering a "success code" at the beginning of a game entitles you to a higher credit rating but also raises your quota.



Corporation has a number of nice little features. You can, for instance, take a visual scan from on board a unit by pressing the firing button twice. You cannot actually see other units, but the cursor changes colour as it passes over them. You can then zoom in for a closer look. If the unit you are aboard is armed, you can then shoot at things.

Whilst in visual scan mode, the defensive screen condition of the unit is displayed. This is progressively weakened by meteorite strikes and by opposition missiles.

One of the units available is a cloaking device which renders all your units within a three square radius invisible to all but surveying units on the other side.

Corporation is a mindstretcher. The kind of game that infuriates but stimulates and draws you back frustratedly to your screen.

This is a game that you might either love or hate. I rather liked it.

Price: £9.99 (cass)
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T.L.

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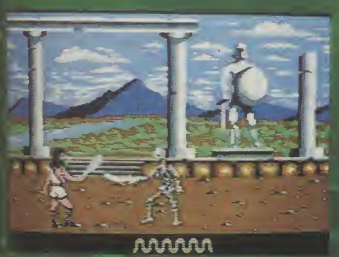


HERCULES – *SLAYER OF THE DAMNED*

Son of the Gods, curse of his fellow men, Hercules is set 12 awesome tasks to exonerate the sin of murdering his children. Armed by his divine fathers he sets forth to face the hideous skeleton hordes and ultimately overcome the evil minotaur. To slay the damned is his only saviour in repenting his sins.

BLOOD BROTHERS

"Our blood is mixed,
We are as one,
Let no man or beast come between us,
And let nothing deter us from our aim,
To avenge the deaths of our parents,
And destroy the Scorpians,
DEATH TO THE SCORPIANS"

GREMLIN

Gremlin Graphics Software Ltd., Alpha House, 10 Carver Street, Sheffield S1 4FS. Tel: 0742 753423

Target R

Target Renegade is not a coin-op conversion but an "original" follow-up to the Imagine's licensed hit Renegade. Anyone who has ever played Renegade or Double Dragon will be immediately at home with Target Renegade.

Your simple aim is to avenge the death of your brother who has killed by Mr Big's gang. This involves fighting through five levels of mean gang members before getting a shot at Mr Big himself. You start the game on the top floor of an empty multi-story car park. Without any warning, a hell's angel biker rides straight into you, a blow from which you recover surprisingly quickly. These greasy bikers need a swift kick to the head to knock them to the ground. Once you have done this they come at you in pairs, one armed with a baseball bat. Using two punches and a kick you have to beat off their attacks.

Successfully landing a blow on an armed enemy will make him drop his weapon. If you are quick you can then pick it up and with a powerful swipe, give them some enjoyable (for you!) taste of their own medicine. Defeating a pair of assialants allows you to advance a little further towards the end of the level. Level one is made up of four floors linked by lifts. When you reach the exit on the ground floor, a ringing phone has to be answered to take you onto level two.

It is out onto the streets for the second level which takes you past the local chippy. Tarts strut up and down and knee you in the gristles if you are not careful. Their innocently named "bossess" kitted out in white suits shoot you with small pistols which have limited ammo. When they have no shots left you can close in for some heavy duty bruising. The usual ringing telephone takes you into the park.

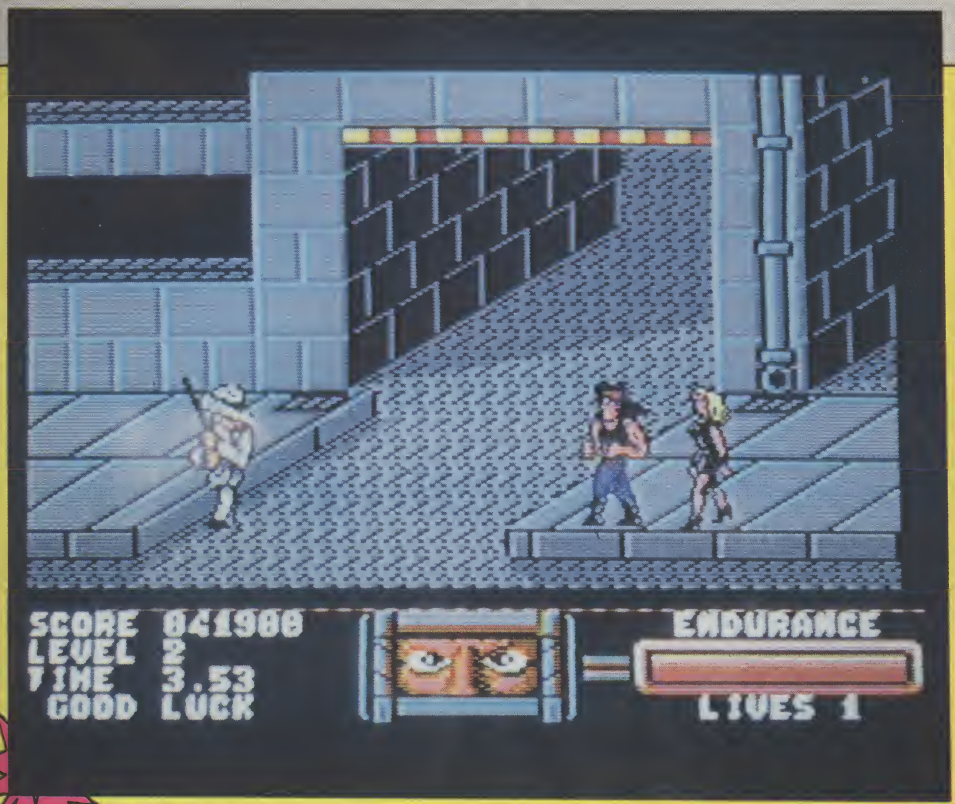
Here you get hassled by skinheads: masters of the art of headbutting. The big boys use their nuts (I mean their heads, stupid!) while little brother puts the boot in. Nice family, good breeding. the low punch comes in handy here for those little tykes.

"A crowded shopping mall" is how the next level is described. A deserted shopping centre would be a more accurate description. Beastie Boys fans are looking for a ruck, and together with their stumpy dogs give you a rough time of it. The problem here is not so much staying alive, but reaching the end of the area in the time limit.

When you make it to the final level you find yourself in Mr Big's bar with a surprising amount of detail in the background graphics. Big square-headed henchmen dish out hefty punches and pile into you with their enormous chests. Taking advantage of your speed you can dispose of them to make way for Mr Big. He goes for the sailor-boy look, and is one meaty Jack Tar. Even so, he is pretty easy to beat once you have sussed out your strategy.

The most striking aspect of Target Renegade is the quality of the sprites. Very clever use of black outlines laid over multi-colour sprites give full colour graphics with far better resolution and detail than

"Very clever use of black outlines laid over multi-colour sprites give full colour graphics with far better resolution and detail than usual."



Renegade

Imagine

usual. All the opponents are full of character with very clear facial expressions. These are only marred slightly by the occasional glitch. The backgrounds are simple in comparison, but still manage to include spots of detail, the fish and chip shop and ladies and gents toilets for example. Another decorative feature is a pair of eyes at the bottom of the screen which follow you around and wince with every blow you recieve. A choice of forgettable music or simple but suitable sound effects is available on the title screen.

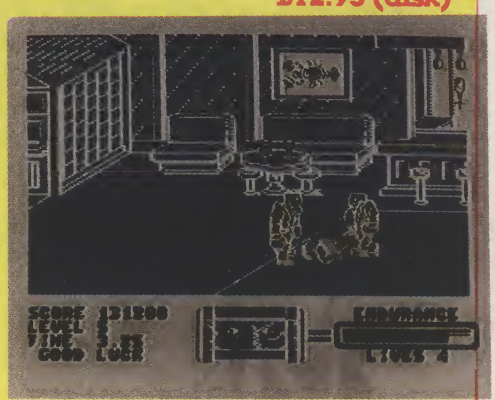
Levels one to three are loaded first, with the final two loading as you get to them. I tested the disk version, but can see that tape loading could impare the enjoyment slightly.

Certainly Target Renegade is a great game. My two main criticisms are that no weapons are available after the first level, which was a bit disappointing, and the gameplay really comes down to finding out the distances each enemy has to be hit from. For example, the bikers need to be punched from a fair distance to make contact, but getting in close on the final mob sees them off. The fights could have benefited from larger gangs to give a real gang-warfare feel. I was pleased to see an end sequence instead of just a "Congratulations" message, although it is pretty simple. Imagine containing Ocean's highly praiseworthy progress in creating top quality products must be praised for coming up with a satisfyingly violent game that should tide us over until the real Double Dragon conversion appears.

Highly recommended

T.H.

Price: £8.95 (cass)
£12.95 (disk)



Graphics: 94%
Sound: 74%
Playability: 80%
Overall: 82%
Rating: MEGA

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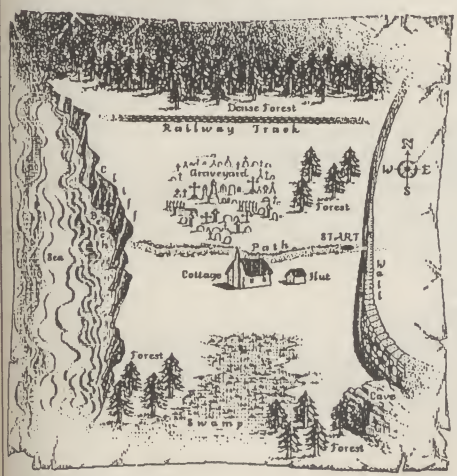
MICROMUD

MUD — Multiuser Dungeons —had a cult following when it came out as a mainframe entertainment. Now you can play it microstyle. Andy Moss tells you how.



I first came across Sue the Witch one winters night, when having just got hold of a modem and the intro codes to Multi User Dungeon or MUD for short I sat down at my terminal and entered the world of Land. This exciting first taste of what I considered to be the ultimate adventure experience, playing and exploring simultaneously with many other adventurers was heightened by coming across in my first few locations dear old Sue. Sue was in fact MUDs greatest player, she would play all hours of the night and 7 days a week. She had attained the highest level in the land, that of Wizard, which gives the player total freedom to boss other less powerful players around change anything at will and generally run the game any way they see fit. MUD for me was an experience not to be missed, and the thought of this great system coming to a home computer seemed to be just fantasy.

Not so. The seemingly unthinkable has happened, or sort of happened anyway. MUD has been converted into a Commodore 64 disk only text adventure system that has 100 other computer generated and controlled players, playing 10 at a time. They possess a vocabulary of about 500 words and interact with 112 creatures in over 400 rooms. There are more than 160 commands and over 250 objects lying around.

For the uninformed MUD first started at Essex University, where the idea was to extend the traditional computer adventure into a game played by a number of people simultaneously. They would explore the magical world fighting creatures or one another and find treasure which would be dropped in the swamp to earn points. The more points you got, the higher you were promoted, until that final distinction of Wizard for the sum total or 204,800 points. Virgin games, courtesy of Mosaic, have just put the finishing touches to MICRO MUD and after playing it for some time, I can justly say that it is very close adaptation of the real thing.

You start by defining your character, and after a few screens, where background colours can be changed or text windows widened, the game proper starts with you planted on that famous narrow road between lands, close to a cemetery near a small cottage.

The text has been followed almost word for word, with long descriptive narrative for each location visited. The computer generated characters arrive and leave talk or fight and generally maintain a stream of dialogue which does get a mite repetitive. There are many spells which either work or fail or in extreme circumstances back fire on you with rather nasty results.

There are two types of dying in Micro MUD. Dead or Dead Dead. If you are killed in a fight you are dead dead. This means you will lose all your points and have to start again. If you just leap off a cliff, say, without unfurling the umbrella to break your fall, you will only be dead, which kicks you out of the game for that session and removes everything you were carrying.

The game is played in real time, and like the real thing resets itself after 60 minutes play. This replaces all the treasure that has been pilfered and brings back to life all the killed monsters, so you need to rush to the swamp and score your treasure points when the two minute warning comes otherwise you have had it. To quit for the night, all you do is type LOGOFF and your current situ is saved for next time.

The game really works well, and the idea of LOGGING ON when starting (using a predetermined password) really gives me the impression of being back on the MUD mainframe system. There are obviously some differences, some minor changes in point values (you only need 102,400 to attain Wiz status) a slower access time, and the lack of real intelligence from the other computer controlled players which is hardly surprising given only a 64 to play with. That said, Micro Mud is a hell of a lot cheaper at £14.99 than it would be to dial in to MUD on BT and pay for all the time you spend on it. The package comes in a large video style box, that contains a comprehensive manual and a free copy of Duncan Howards book on MUD.

A really fascinating release this, that tries hard and succeeds in every department. An essential purchase for MUD lovers and adventure enthusiasts alike.

A.M.

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HORGAN'S HINTS

Of all the games I've been sweating over this month, Firebird's IO must be the hardest. All my attempt to cheat on this game have failed, even with a collection of hack/monitor/cheat cartridges I'M still stuck with a measly helping of three lives. I'm sure I'm not the only one in this situation, so if you can help me and numerous other readers then do your good deed for the day and pop that poke in the post.

C64

Bangkok Knights

Andy Grifo kicks off with a listing for battered and bruised Bangkok Knights, and walks off with this month's tenner and subscription to go with his trendy CCI T-Shirt. Enter the routine to play with infinite energy.

```
1 SYS 65371:POKE 646,1
2 PRINT "BY ANDY GRIFO"
3 FOR A=608 TO 624:READ B:POKE
A,B:NEXT
4 FOR A=53213 TO 53256:READ
B:POKE A,B:NEXT
5 SYS 608
6 DATA
32,44,247,32,108,245,169,128
7 DATA
141,237,2,76,166,2,76,221,207
8 DATA
169,32,141,249,3,169,96,141
9 DATA
3,169,207,141,251,3,169,96,141
10 DATA
252,3,169,127,76,81,3,169,32,1
41,249
11 DATA
75,169,0,141,250,75,169,234,14
1
12 DATA 170,17,141,171,17,96
```

Deflektor

Infinite energy and no more overloads thanks to the following listing. Enter and run it before loading the game.

```
1 REM DEFFLEKTOR CHEAT (C) HM
HUGH 1988
2 FOR X=320 TO 347:READ
Y:C=C+Y:POKE X,Y:NEXT
3 IF C=3008 THEN POKE
157,128:SYS 320
4 PRINT "DATA ERROR"
5 DATA
32,86,245,169,81,141,204,2,169
,1,141,205,2,96
6 DATA
72,77,80,169,165,141,143,54,14
1,249,54,76,5
```

Gauntlet II

Spooks, wizards and other such dislikables are no longer a problem; enter, run and load the game as always. Your energy will apear to go down but this is normal.

```
1 SYS 65371:POKE 53280,0:POKE
53281,0:POKE 646,1
2 PRINT "BY ANDY GRIFO"
3 FOR A=8448 TO 8512:POKE
A,255:NEXT
4 POKE 53248,100:POKE
53249,100:POKE 53276,1
5 FOR A=528 TO 591:READ B:POKE
A,B:NEXT
6 SYS 528
7 DATA
32,44,247,32,108,245,169,27,14
1
8 DATA
208,8,169,58,141,209,8,76,16,8
9 DATA
169,32,141,48,43,169,53,141,49
10 DATA
43,169,2,141,48,43,169,53,141,
238
11 DATA
38,208,169,155,141,17,208,169
12 DATA
1,141,21,208,169,132,141,248,7
13 DATA
238,1,208,169,96,141,231,154,9
6
```

Psycho Soldier

Can you guess what to do with this infinite lives listing? Yes that's right, type it in, run it and load the game.

```
1 REM PSYCHO SOLDIER CHEAT (C)
HM HUGH 1988
2 FOR X=541 TO 578:READ
Y:C=C+Y:POKE X,Y:NEXT
3 IF C=3726 THEN POKE
157,128:SYS 541
4 PRINT "DATA ERROR"
5 DATA
32,86,245,72,169,32,141,84,3,1
69,2,141,86
6 DATA
3,141,52,10,169,59,141,51,51,1
0,104,238,32,208
7 DATA
96,72,77,80,169,141,8,232,76,0
,130
```

R Troughton has supplied me with an alternative poke for reseters: **POKE 59400,165:sys 33280**

Rastan

David Slack has rustled up this infinite lives and energy listing, but you'll still have to keep away from the water and lava. Unfortunately there will be no music in the game.

```
0 REM *** BY D SLACK ***
1 FOR X=400 TO 457
2 READ B:POKE X,B:C=C+B:NEXT
3 IF C=6543 THEN SYS 400
4 PRINT "DATA ERROR":END
5 DATA
32,44,247,32,108,245,169,163
6 DATA
141,196,2,169,1,141,201,2
7 DATA
76,167,2,169,189,141,116,1
8 DATA
169,1,141,117,1,169,88,141
9 DATA
211,2,169,96,141,244,10,141
10 DATA
125,10,76,81,3,169,96,141
11 DATA
165,160,169,173,141,7,201,76
12 DATA 26,129
```

Zybex

Zeppelin's excellent Side Arms variant can now be played with infinite lives thanks to A Ridge. Load and reset before entering:
POKE 28660,32:POKE 28661,144:POKE 28662,127
POKE 28663,32:POKE 28664,155:POKE 28665,127
POKE 28666,76:POKE 28667,3:POKE 28668,120
SYS 16384

Michael and Christopher McParland have poked the following cheapos.

Cylu

POKE 39409,173
SYS 49152
For infinite lives.

Denarius

POKE 38218,234
POKE 38219,234
POKE 38220,234
SYS 6912
For infinite lives.

Force One:

POKE 2203,255
SYS 2063
For 255 lives.

Freak Factory:

POKE 25671,173
POKE 25685,173
POKE 40275,173
SYS 16384
For infinite lives.

Ollie and Lisa:

POKE 8844,165
SYS 7427
For infinite power.

Park Patrol:

POKE 26700,191
SYS 2076
(infinite lives)

Mermaid Madness:

POKE 17214,169
POKE 17275,0
POKE 17276,234
SYS 16384
(Infinite lives)

Thrust:

POKE 6139,234
POKE 6140,234
POKE 29734,234
SYS 2304
(Infinite lives)

HORGAN'S HINTS

I, Ball:
POKE 21916,234
POKE 20669,234
POKE 20670,234
SYS 27933
(Infinite time and balls)

Caverns of Eriban:
POKE 48291,221
POKE 48292,248
SYS 50333

Cosmic Causway:
Last month a runaway DATA statement found its way into line 120 of the Cosmic Causway listing. If you hadn't already realised, this should be taken out so the line starts with the FOR statement.

AMIGA
Arkanoid:
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That's you lot mate! Pokes and listings are very helpful when you come across a tricky game, but how about a few maps? I'm sure there must be some great cartographers out there, so show us your stuff! Black Lamp, Frightmare and Terramex are all good mapping fodder, so send them in to your uncle Horgan together with any other titbits you could share with the readers. Wop 'em in an envelope and insert into a nearby letter box, not forgetting to scrawl this address on the front:

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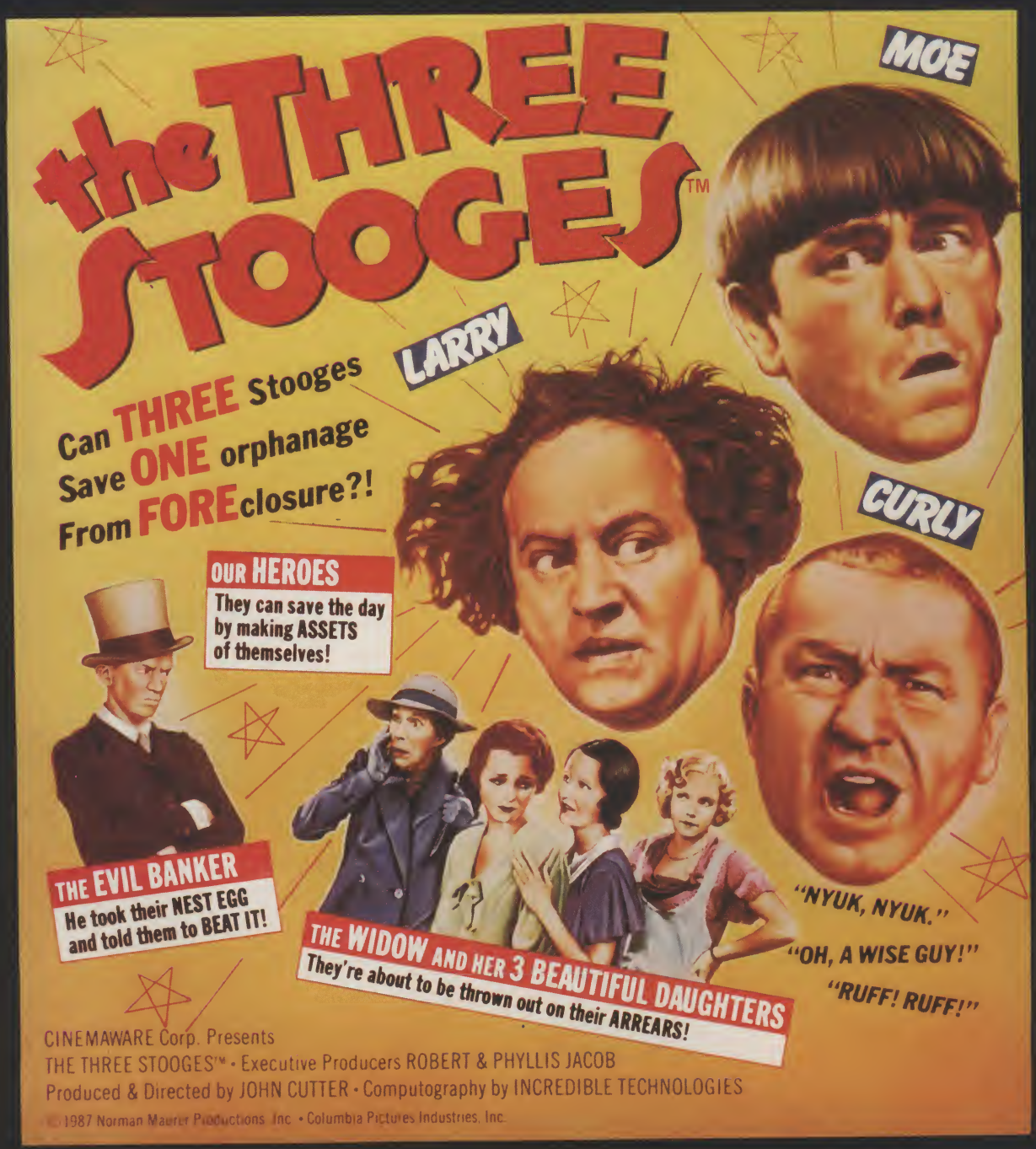

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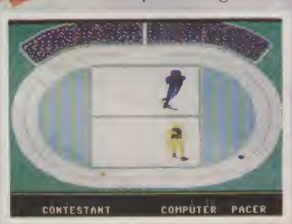

All screen shots from the Commodore 64 version.

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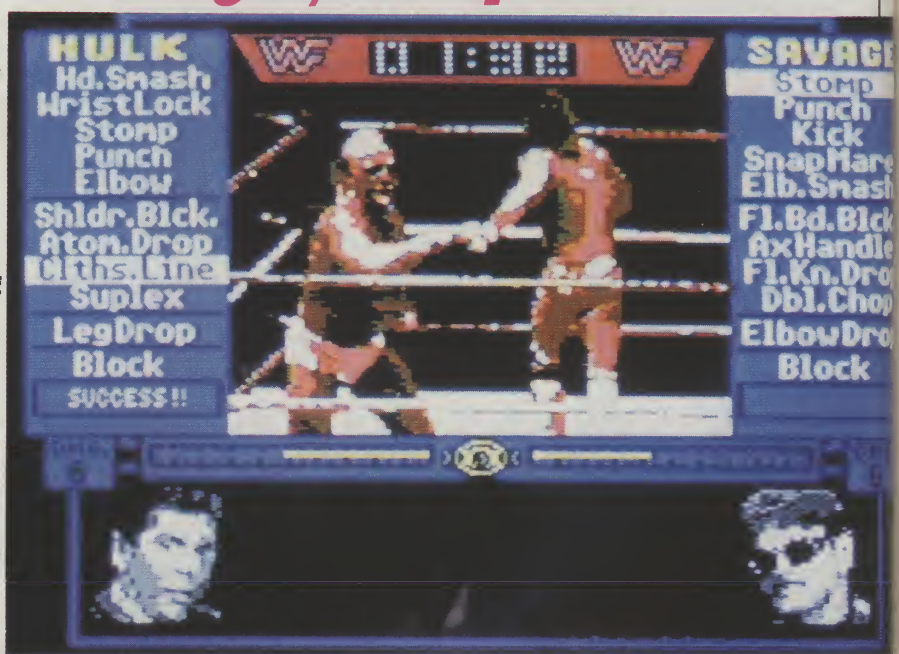
C64

CRISP

MICRO LEAGUE WRESTLING

Microleague/Microprose



In the past there have been a few wrestling games released which have taken the sport and turned it into a test of joystick skill and reactions, sometimes resulting in very enjoyable games. Micro League Wrestling takes a very different approach and typical of Microprose style releases is more of a simulation. Though it is true that probably Microleague who created this were not really connected with Microprose until the game was finished.

After a long and simple title sequence has been endured, an options screen gives the player the choice of two bouts: Hulk Hogans (No, not Horgan!) vs. Randy "Macho Man" Savage, or Hulk Hogan vs. Paul "Mr Wonderful" Orndorff. Next you can choose your input device

and whether to play against a human or computer controlled opponent. After the time limit has been set the prelude can begin.

The Prelude is just a slagging match between the two wrestlers. A commentator enquiries about their tactics for the match and the digitised graphics of the wrestlers are accompanied by descriptions of how they intend to mangle each other. This can be skipped with a press of the button. Getting ever closer to the match, the wrestlers emerge from the dressing rooms with the traditional OTT verbal intros.

At last, the game can begin. In the middle of the screen is a window on the action which is used to display the digitised frames. Each player moves a highlight on a menu of moves to the one he wants and presses the button. When both

have selected, the word "success" appears at the bottom of one of the menus to indicate who pulled off their chosen move. Next, a few frames are strung together showing the move in action. These are successful in giving a reasonable illusion of movement, but with around two to four frames per move, they hardly flow realistically.

"Each player moves a highlight on a menu of moves to the one he wants and presses the button"

After each blow, two commentators come out with remarks such as "Ooh! can Hulk survive another head smash?". "Head smash?" you may be thinking, "sounds pretty rough!". The term head smash is a very exagerated one; in fact, this entails the opponent's head being hit on a padded knot of rope in the corner of the ring. Other moves will be familiar with grapple fans, such as the suplex and headlock, with a few speciality moves, the eye rake and axe handle. This continues with the wrestlers losing and regaining strength until the time limit expires or a wrestler manages to pin a wearing opponent.

Digitised graphics can be used to great effect on 16-bit computers, but the 64 is not very well suited due to its limited resolution and colours. They do look rather untidy, it has to be said, but even so create an atmosphere not otherwise possible. One point that I thought could be improved with careful programmming was the constantly glitching screen, flickering dots are rife and give a rather rushed look. Its sound is nothing to short about and consists of simple tunes and FX.

I prefer the style of Epyx' Championship Wrestling, but Micro League Wrestling makes a pleasant and original change, and certainly an enjoyable, if slightly limited game. Wrestling fans will surely want to take a look.

Price: £19.95 *(disk)*

T.H.

MICRO LEAGUE WRESTLIN

Graphics: 80%
Sound: 25%
Playability: 67%
Overall: 69%
Crisp

Preview DARK SIDE

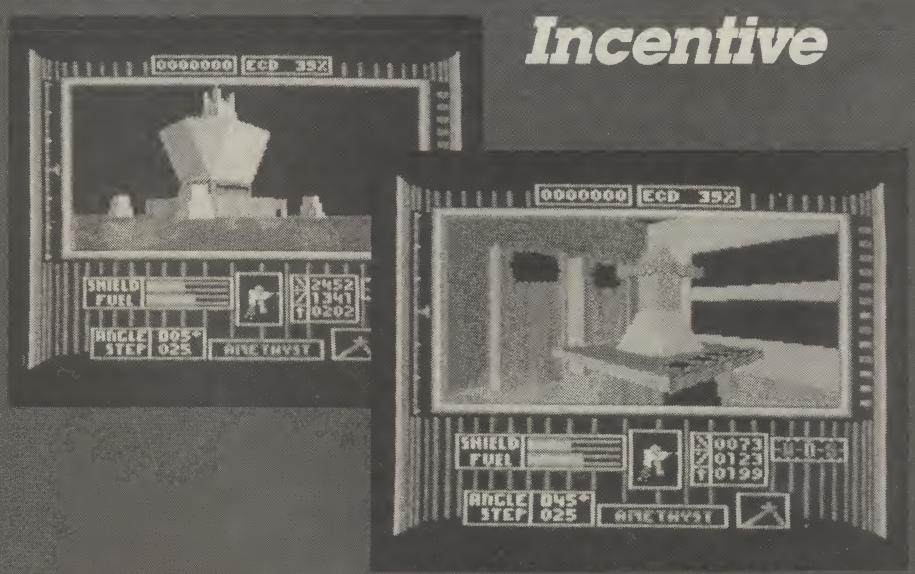
Incentive

The multitide of Driller fans will be interested to hear of Dark Side, Incentive's follow up which uses the same Freescape system to generate a world in solid 3D. The time is 200 years on from Driller, and the Ketars are planning their revenge.

On the dark side of the plant Evath's other moon, Tricuspid, an enormous weapon known as Zephyr One has been constructed and aimed directly at Evath. Above all, you must find a way of stopping the Ketar's plans for blowing away Evath with their mega-laser. On your way to your goal, you will have to destroy the Plexors (who or whatever they may be), navigate the moon's tunnel system and shut down the Energy Matrix that feeds the Zephyr One.

This time you are not in a tank-like vehicle, but instead use a jet pack for transport. Luckily, your space suit comes equipped with a quad-laser.

Incentive promise us that Dark Side will incorporate many new features. Driller was a bit pricey at £14.95 on cassette, but Dark Side has come down to Earth and will sell for a more reasonable £9.95 on cassette or £12.95 on disk. Evath, Tricuspid, Ketars, Plexors and a Quad Laser...



You've got to hand it to Incentive, they have a way not only with wonderous 3D style graphics but also with wonderous 3D style words. Watch out for the finished article in late Spring.

T.H.

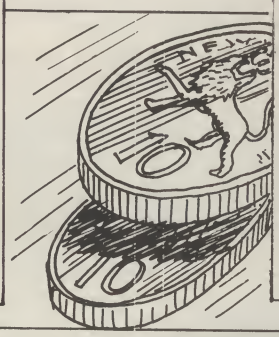
ARCADE ALLEY

US Gold

Half a dozen coin-op conversions make up US Gold's Arcade Alley.

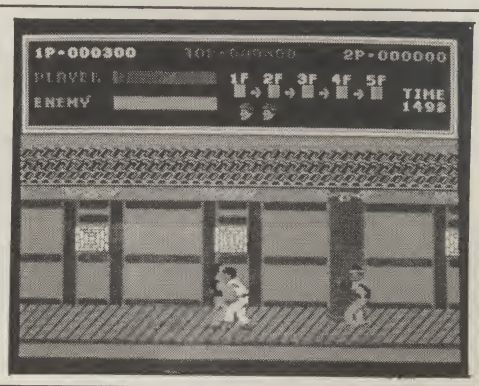
Last Mission is not a game I have ever seen in an arcade, and if it is anything like this version, I have not missed anything. Flying your plane over blocky sea-faring backgrounds, the game comes down to a very simple and unnatractive shoot 'em up with poor presentation and some bad scrolling glitches.

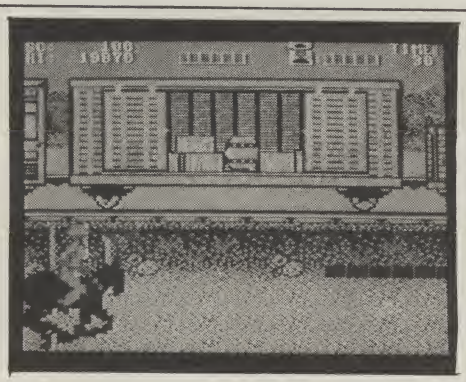
KUNG FU MASTER is a simple but highly satisfying oriental beat 'em up. Your girlfriend has been kidnapped and is being held prisoner in a five storey hideout. Using a variety of punches and kicks you must fight you way through an army of bear-hugging chinamen. The end of each level is guarded by a tougher opponent, often armed with magic or a weapon. The graphics are blocky and the sound simple, but the 64 version manages to capture a lot of the original's exciting feel. Easy to finish but very enjoyable while it lasts.



Breakthru has you in control of a car attempting to penetrate five enemy infested scenes in order to recapture a stolen aircraft. As the screen scrolls from right to left, enemies need to be shot and obstacles jumped over. The simple game-style held a lot of potential, but the program was obviously rushed, and gets extremely tedious after a matter of minutes.

Karate Champ is the official 64 version of the coin-op that gave rise to Way of the Exploding Fist and all the subsequent derivations. It is faithful to the coin-op in its graphics which are well animated but a shade slow to move. When compared to Exploding Fist or International Karate it suffers from its lack of speed and multi-load between fights. It has its thrills though that make it very well worth a try.





Express Raider is set in the wild west where train robbing is the way to make a fortune. Clearing the train of guards and leaping from one carriage to another is depicted in large blocky graphics, and is easy to get into but though it might seem unlikely to hold anyone's interest for long. It is really very good fun.

Tag Team Wrestling is possibly US Gold's worst coin-op conversion ever. Deformed sprites hobble around the ring trying to get each other in a hold. Selecting moves is like flicking through a menu which interupts what little flow the feeble game had in the first place. Sound, graphics and gameplay are all atrocious.

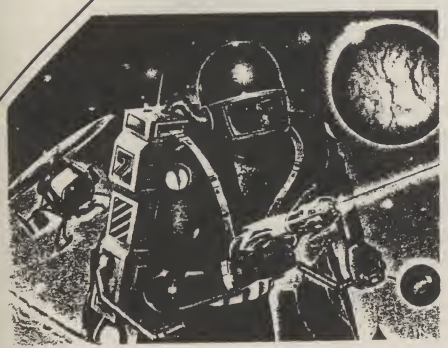
None of the games are particularly good ones. In fact, there are more that stand out as being particularly bad. A collection of six coin-ops sounds appealing, but the overall standard is probably just not up to scratch. Though for hardcore arcaders £9.95 is going to seem very cheap indeed for six conversions.

C16 PLUS/4

IFFY

DINGBAT

Mastertronic



Now here's a difficult game to understand; shoot everything in sight, and let nothing go by unscathed!

Everyone else has gone safely into shelters, while muggins (you) is left to draw the invaders fire, with a laser gun (well-gun really) and jetpack as you're only weapons.

You are placed in the centre of the screen at the start, and you can only move around, in that area if you go off one side of the screen you reappear on the other, when you fire your gun, your jetpack is also activated, so coordination is a must.

Dingbat is fast and has a frentic feel to it but I believe something is missing. Maybe you'll like it. But to my mind neither the graphics, sound or gameplay come up to the standard that Mastertronic have established as their touchstone.

Price: £1.99

Graphics: 35%
Sound: 28%
Playability: 41%
Overall: 39%
Rating: IFFY

C.K.

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HEWSON'S CYBERNOID

To celebrate the launching of its futuristic Cybernoid, its creators, Hewson are offering a super futuristic prize exclusively to C.C.I. readers.

By the time real Cybernoids arrive no doubt we shall be wearing mainframe-power computers on our wrists. In the meantime, we will have to be satisfied with laptop computers of today. Sir Clive Sinclair's new baby, the Z88, is the latest and smallest laptop around. Hewson have given us this super laptop for the winner of C.C.I.'s Cybernoid Competition.

The Z88 is compatible with the Amiga, too, so you can tap away anywhere and come home and put it up on your Amiga's screen, or you can use it alone and impress all and sundry.

All you have to do is answer these questions:–

1. Who is the boss of Hewson?
2. Who is the programmer of the original version of Cybernoid?
3. Which train simulation was created by Hewson?
4. Which airport is the name of a Hewson game?
5. Name three recent Hewson shoot 'em successes (not Cybernoid).
6. What do Cybernetic and Cybernoid mean?

Win a Laptop Computer!

Answers on a postcard please by July 15th 1988 to:–

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40 Bowling Green Lane
London EC1R 0NE

First correct answer out of the competition sack, drawn by the lovely hands of Teresa the frightenlin ly tough competition controller, will receive Hewson's Cybernoid Laptop prize.

C64

CRISP

ROAD WARRIOR

CRL

Not surprisingly, the idea of a Mad Max style computer game is a popular one. Roadwars, Roadwar 2000, Spy Hunter and the soon to be converted Roadblasters coin-op all seek to translate this concept to pixel form-with varying success no doubt. The latest to join them is CRL's Road Warrior.

Take Spy Hunter, turn it through 90 degrees and "violá!" you have Road Warrior. The title screen shows plan and side views of four cars: Sport V, Tinkly Winker, Open Top Tub and Typical Usual One. Any of these can be selected to drive during the game, although apart from appearance, they all seem very much alike.

Your objective is to shoot a set amount of cars and bikes to progress to the next road. These are easily destroyed by driving into them, but this makes you lose fuel and adds one to the total number of enemies that need to be shot. Naturally enough this number increases with each road. Additional weaponry is available by collecting symbols that glide past the car. Fuel is constantly running down, so if you get particularly low you can press the space bar to pull in at a garage and exchange points for fuel. When the alloted amount of enemies have been shot your car refuels ready for the next stage. Later stages introduce more variety in the road users, new roadside scenery and obstacles strewn across the road.

There is really no more to it than that. Because of the limitations of the gameplay it tends to get tedious after only a few games. The roads are completely straight which does nothing to help it along. Having to negotiate tight bends or even the inclusion of slight deviations from the norm would have given a better feeling of driving. Its graphics are attractively shaded and highlighted although some of the sprites are a little indistinct. The accompanying soundtrack is certainly professional, but could do with some original sounds and the tune is rather forgettable.

"Its graphics are attractively shaded and highlighted although some of the sprites are a little indistinct"

Road Warrior's biggest problem is in its lack of excitement. Everything moves around extremely smoothly and the screen layout is neat but the basic design of the game is too mundane and unrewarding to be totally absorbing. If the roads had an end at least there would be something to go for, as it is the driving is in effect just a disguise over a very simple shoot 'em up. A pity for this game has a lot going for it.

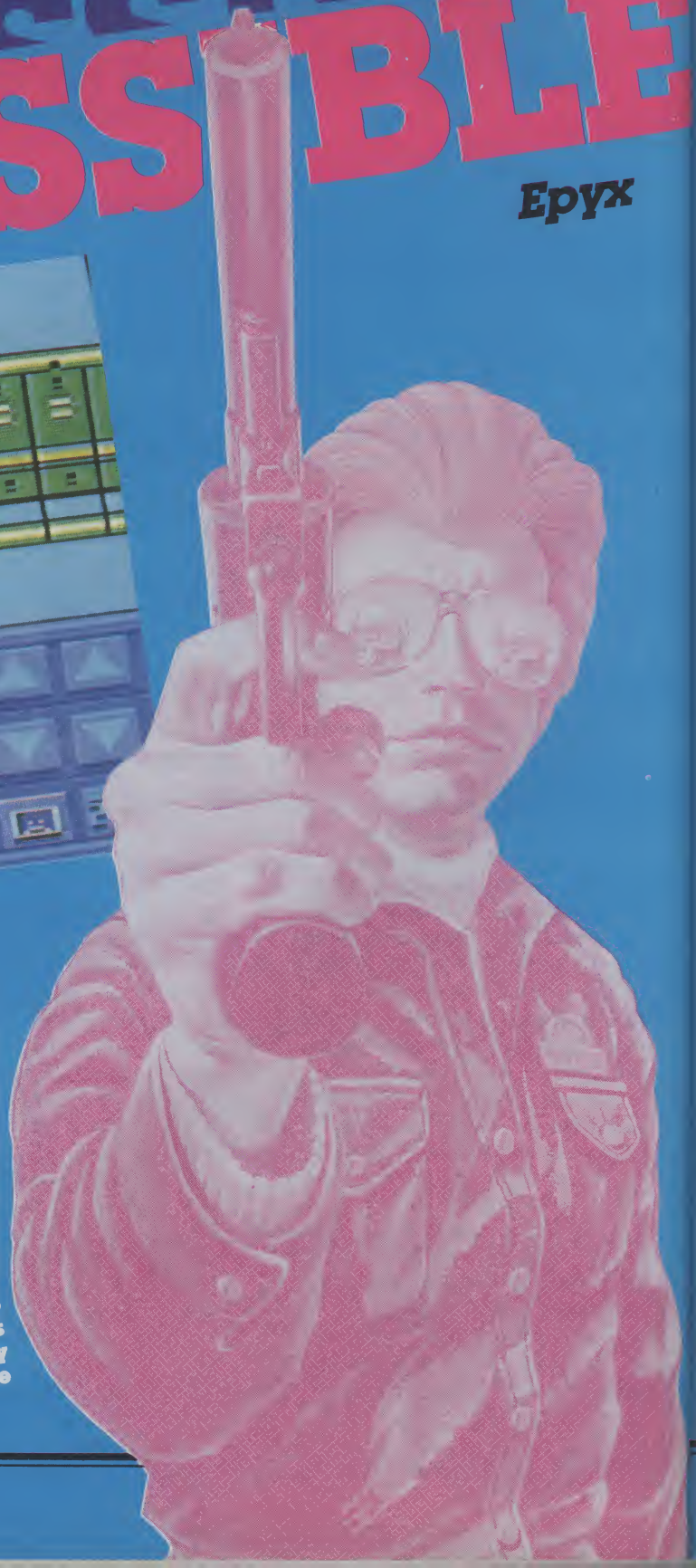
Price: £9.95 (cass)
£14.95 (disk)

B.V.

Graphics: 71%
Sound: 61%
Playability: 54%
Overall: 56%
Rating: CRISP

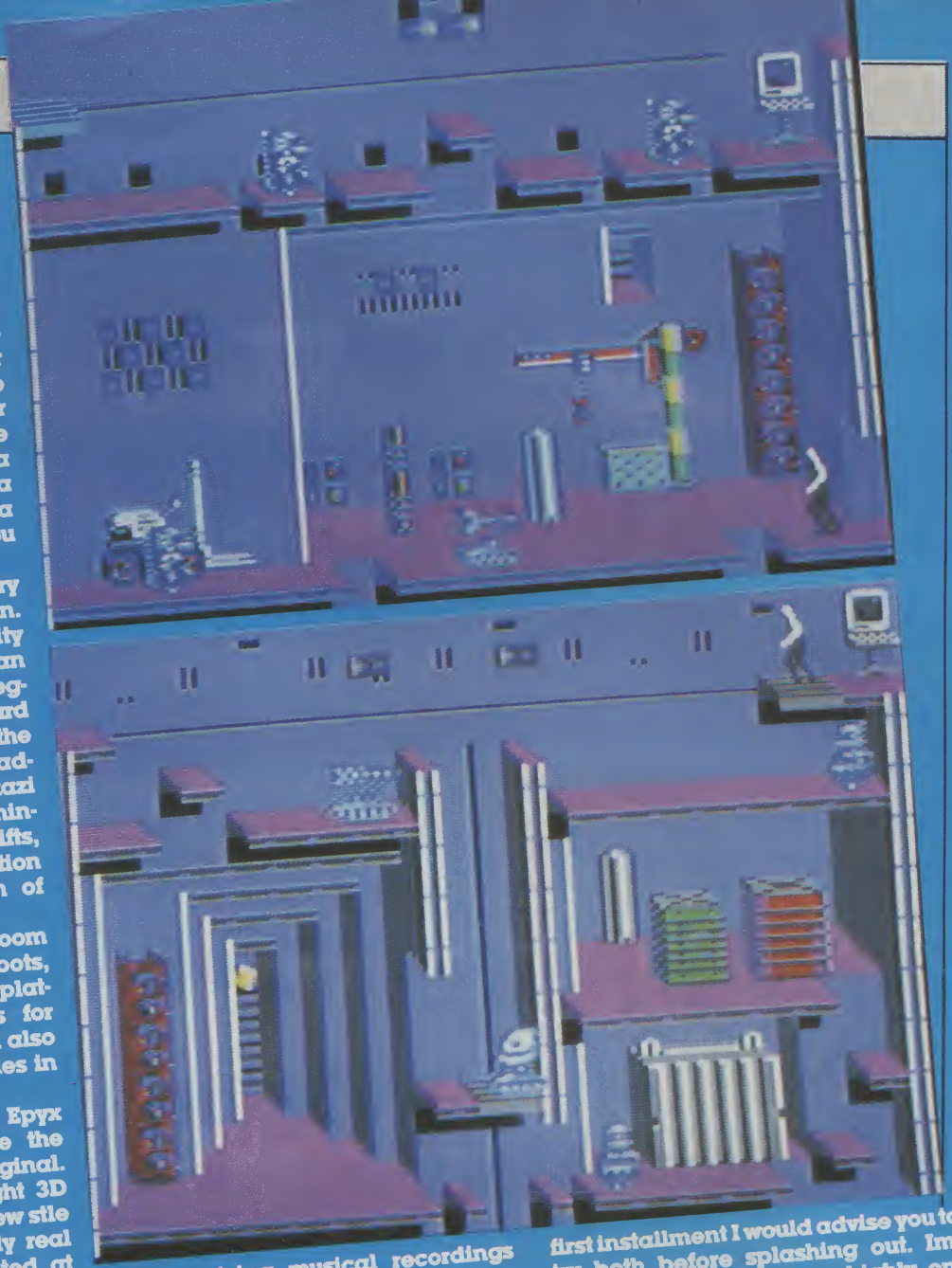
IMPOSSIBLE

Epyx



Epyx not being a company to miss out on the opportunity of a follow-up to a past hit have finally completed Impossible Mission II. Once again Elvin Atombender, balding nutter scientist extraordinaire is planning to take over the world.

Instead of starting from scratch and programming a whole new game, Epyx have obviously taken the original and modified it. The location for your mission is a six storey building consisting of eight towers surrounding a central section. The familiar character begins in a lift in one of the towers. Moving up to the first floor you can make your way to the first room. As before, each room is a collection of platforms patrolled by five types of robot. Depending on the



theme of the tower, the objects placed about the platforms could be sports equipment, cars and bikes, or the more normal office furnishings. By searching these you can find security passwords or ID numbers.

To get from one tower to the next, a three digit pass number has to be assembled with the help of your pocket computer. This is a simple matter of flipping through until your computer tells you that you have the right sequence. Before leaving a tower you should record part of a tune found inside a safe. When a whole tune has been recorded you can enter Elvin's inner sanctum.

Exploration of the rooms is very similar to that of the Mark 1 version. Agent 4125 has retained his ability to somersault long distances, an essential talent needed for negotiating the many platforms. Standard laser-armed robots as found in the original are still here with the additions of mine-dropping, kamikazi and other droids. One other hindrance is a robot that rides the lifts, hindering your strategies. A variation of the lifts comes in the form of horizontally sliding platforms.

Computer terminals in each room can be used for relief from robots, lighting dark rooms, reseting platforms or setting time bombs for blowing safes open. Mines can also be taken from here to blow holes in the floor.

Perhaps the biggest mistake Epyx have made here is to make the sequel just too similar to the original. A few different robots, a slight 3D slant to the platforms and a new stle pocket computer are the only real differences I was disappointed at the lack of any new speech. Some of the original speech seems to have been lost, leaving only the opening "Another visitor..." and death cry remaining. In the original, the assembly of the punch cards could get underway after only a few rooms had been searched. the sequel's equivalent is far less involving, and the promising musical recordings take too long to get started. The design of the graphics is certainly more advanced.

Impossible Mission II remains an enjoyable game but is no real improvement over its predesessor. Big fans of the original should take a look, although if you do not have the first installment I would advise you to try both before splashing out. Impossible Mission II is a highly enjoyable game. Any disappointment may stem from having come to expect more originality and innovation from probably the best software house in the world.

T.H.

MISSION II

Graphics: 79%
Sound: 83%
Playability: 72%
Overall: 73%
Rating: CRISP
Price: £9.95 (c)
£14.95 (d)

C64

CRISP

IO

Firebird

The recent increase in the number of budget games has brought with it a wealth of horizontally scrolling zappers all in a very similar style. Most immitate the graphic techniques and gameplans first used in Delta and later in Zynaps with varying success. IO is another in the same vein but at the opposite end of the price range.

As with all these games the idea is simply to fly your ship through all four levels, feeding laser-fire to any aggressive aliens that come your way. It starts with your ship being dropped off from the mothership at the start of the first level. Not unlike Zynaps, this is set in an armoured tunnel with rotating guns lining the walls. Waves of wobbly aliens swoop onto the screen depositing small glowing balls of death. These are best dodged to start with, as your initial weapons are very basic allowing only one shot on-screen at any time.

Green pods can be collected for a smart bomb effect, but if shot four times they turn into an extra laser bolt to be fired from your ship, of which up to three can be added. When you have three, shooting a pod four times turns it into one of two available globes that shoot with you. These are very useful, as when you are shot, instead of losing a ship you just loose a globe. Any globes collected by a fully armed ship give extra lives.

"At the opposite end of the life scale a skull does its best to get you to join it in the land of the dead."

Most of the time you are up against fairly standard alien attack waves, but now and again a snake fifteen sprites long whirls onto the screen at very high speed. Although the majority of the game looks no different from a good many shoot 'em ups, it does have some very impressive features that make it worth a second look. At the end of the first level is a massive ship that is very difficult to destroy. Level two takes the player through a tangled forest of mutated vegetation. Bulbous plants spit flak at passing ships and more space fiends threaten your existence. More graphical wonders await the player at the ends of levels in the shape of a giant embrio, and at the opposite end of the life scale a skull does its best to get you to join it in the land of the dead.

David Whittaker has been called in to do the sound, and has made a good job of the effects, although the music lacks variation and originality.

While at times IO has loads of sprites and pretty graphics to treat the eye, the majority of the game is played just like any other of this type. A mistake made by the programmer of IO and a lot of recent shoot 'em ups is to make the game too hard. Contrary to its aim of prolonging the game's long term appeal, this can be frustrating and off-putting. If it had been released about a year ago, I would have recomended it heartily, but today it seems just a bit too lacking in originality to be worthy of the asking price.

Even so, IO is the best looking shoot 'em up to appear in recent months.

T.H.

Price: £8.95 (cass)
£14.95 (disk)

Graphics: 89%
Sound: 74%
Playability: 76%
Overall: 75%
Rating: CRISP

6 Pak Volume 3

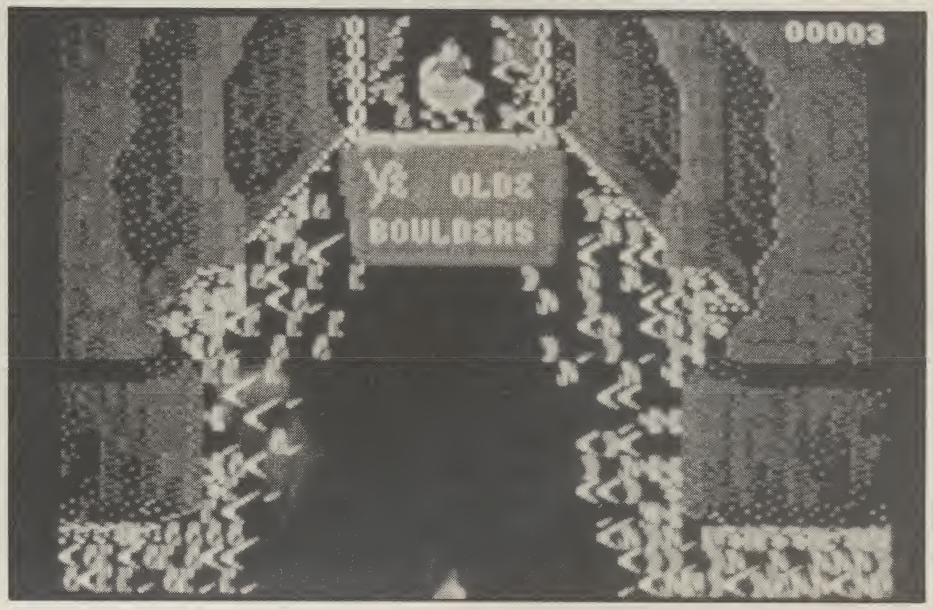
Elite

Elite's latest 6 Pak consists mainly of high quality games with just the odd one letting the side down.

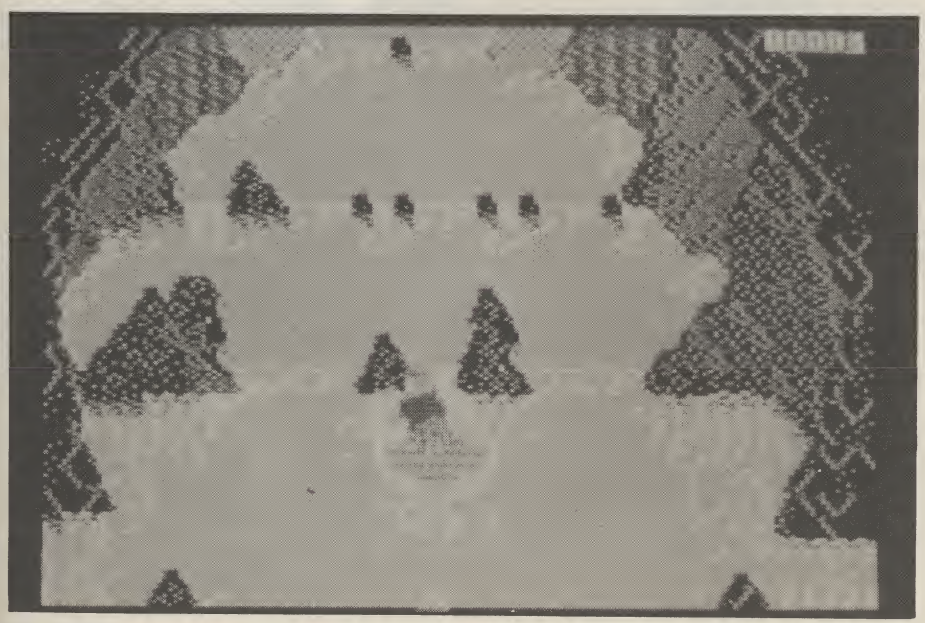
Ghosts and Goblins was converted very faithfully from Capcom's coin-op. Starting out in a graveyard, your mission to rescue a damsel in distress takes you through a wide range of scenes full of nasties from the underworld. A sense of humour helps the game along, making for a lively romp through an erie world. Superb graphics and jolly sound complement the polished gameplay.

Paperboy may have sold in enormous numbers, but the final product was rather disappointing. To look at, this exagerated view of a paperboy's round is not as good as it should have been. Many of the features of the arcade version were lost in the translation, and the playing area feels cramped, but even so there is enough action and humour to keep you occupied for quitea while.

Enduro Racer Out Run's predesessor was and still is an exciting simulation of motor cross (in the arcades). Unbelievable when it was converted to the 64, it still managed to top some charts despite its slow speed and awful graphics. The whole thing is a non starter and a great disappointment.



Dragon's Lair was originally a laser disk based interactive cartoon, and although it understandably bears limited resemblance to the original, it worked out very well. The main problem is that the gameplay is a matter of learning sequences of hazards which are always the same. Its clever "load as you play" system means that the multi-load is almost invisible to the player.



Escape from Singe's Castle is the sequel which takes a similar form but has improved graphics, gameplay and a different style of soundtrack from Rob Hubbard. Well worth playing.

The Living Daylights was licensed from the Bond film, but falls short of its potential. The action packed spy film has been reduced to a straight forward scrolling shoot out. James has lost much of his macho image now, as he finds pebbles need to be jumped over to avoid tripping over and grazing his knee. Graphics are up to the required standard, but the simplicity of the game is its downfall.

The quality of the collection spans the complete range from excellent to excrement. I would not tell anyone to raid the swear box for this, but it has just enough good ones to make it worth your while. And six games for £9.95... what do you want? Gunship?

T.H.

Charts

Chart Chatter

Ocean's Platoon holds onto the top spot for the second month running. At number two, and still climbing is what some people say is the best home computer entertainment around — Microprose's Project Stealth Fighter. "One of the better coin-ops of late" was how we described Ikari Warriors in last month's CCI. And splat! It hits the 4th spot at first blow. Another new entry is GrandSlam's well-received Pacland and D.I.'s ATF enters at six. ALternative World Games from Gremlin climbs a place to nine. Watch out for another Ocean cracker Target Renegade and Hewson's Cybernoid, both furiously bubbling under.

On the budget list, the biggest selling game in the U.K. is still Mastertronic's re-release of Ghostbusters (will this be the top selling game ever?) "Exploding Fist" holds on tight to Number Two and with Battle Valley and Kikstart II still catching the buyers, sorry, players' eyes, Mastertronic reign supreme with four out of the top five. Steve Davis Snooker from CDS pots a new entry star at Number Three.

A new leader for the Amiga chart — Domark's Star Wars moves up smoothly from second place and pushes Xenon down one. A fast-lightning fast — shoot 'em up: Anco's XR-35 leaps in. And the top of the Arkonoid clone class, Arkanoid itself, storms into the top Amiga games at Number Four. Keep your eyes open for Ocean's fast rising ECO.

	GAME TITLE	COMPANY	PRICE	RATING
1	Platoon	Ocean	£9.95	Awesome
2	Project Stealth Fighter	Microprose	£14.95	Awesome
3	Predator	Activision	£9.95	Mega
4	Ikari Warriors	Elite	£9.99	Mega ★
5	Pacland	Gram Slam	£9.95	Mega ★
6	ATF	Digital Integration	£9.95	Mega ★
7	Matchday II	Ocean	£8.95	Mega
8	Firefly	Ocean	£9.95	Mega
9	Alternative World Games	Gremlin	£9.95	Mega
10	Morpheus	Firebird	£14.95	Mega

Budgets

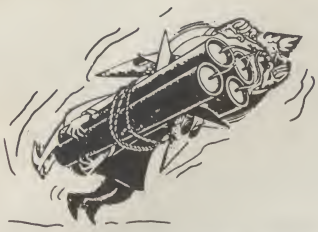
1	Ghostbusters	Ricochet
2	Way of the Exploding Fist	Ricochet
3	Steve Davis Snooker	CDS ★
4	Battle Valley	Rack It
5	Kikstart II	Mastertronic

Amiga

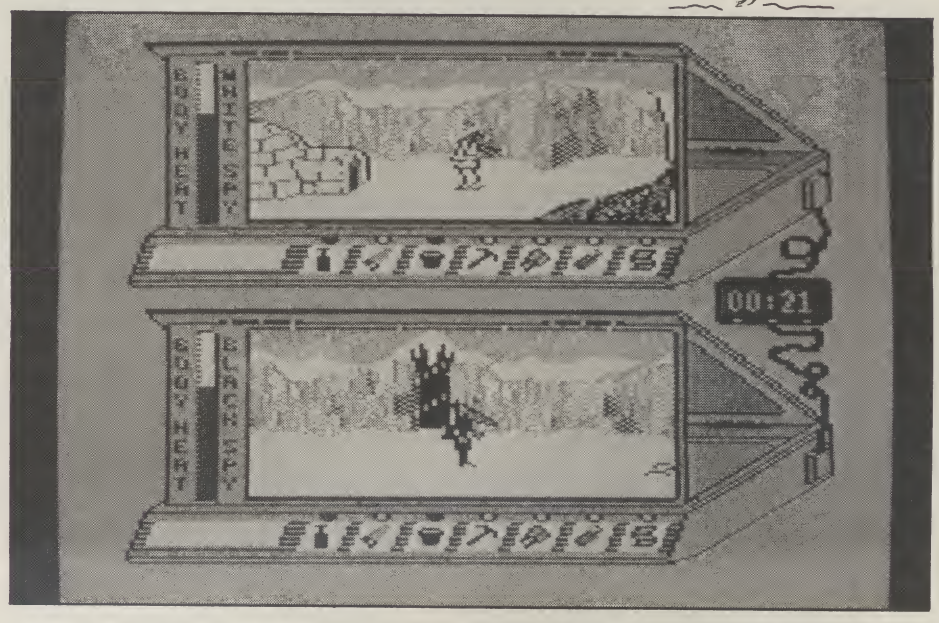
1	Star Wars	Domark	£19.95
2	Xenon	Melbourne House	£19.95
3	King of Chicago	Mirrorsoft	£29.95
4	Arkanoid	Discovery	£24.95 ★
5	XR35	Anco	£19.95 ★

★ NEW ENTRY.

SPY VS SPY TRILOGY



Databyte



In the days when every new game was original, the first Spy vs Spy game was very successful in its conversion from the MAD comics. Since then two more episodes have found their way to our screens and now all thre are available in one pack.

Each installment revolves around the two spies, always scheming against eachh other whilst pursuing a common goal. Part one involves a race to an airport where a plane is waiting for the winner to fly it off. The game is played in a maze of offices which contain furniture and decoration which could be hiding one of five objects, vital to the completion of your task. These are the briefcase, money, a key and some secret plans.

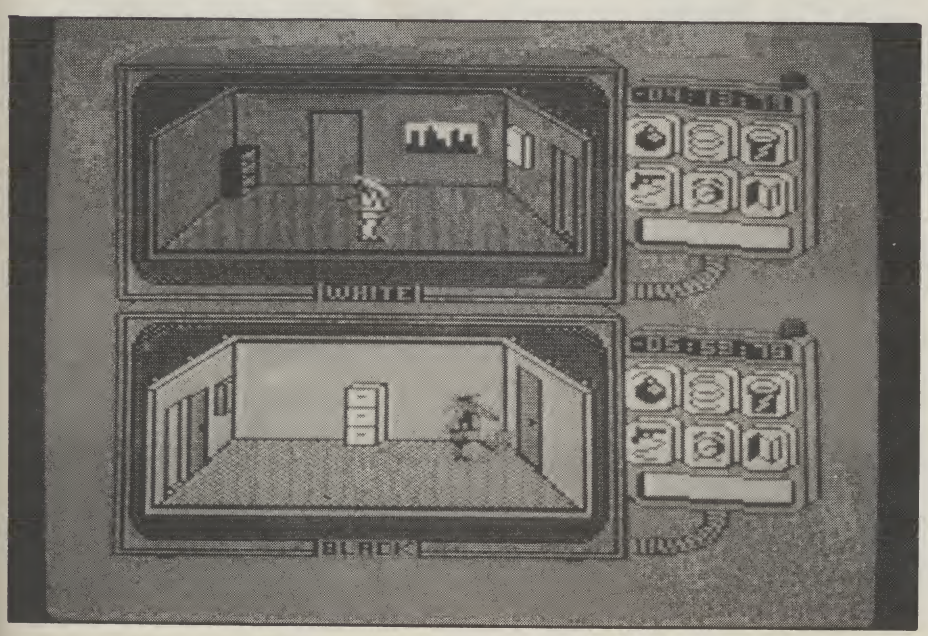
To add humour to the search, each spy has a number of booby traps with which he can slow down or even kill his opponent. These include water buckets, sorings, bombs and tripwired guns. The two player mode and humourous graphics were what made this such goody, and a good deal of that original attraction is still there.

The spies second adventure is set on a tropical island. Its presentation and graphics are much the same as the first, but here you are searching for the three parts of a deadly missile. Once the parts have been collected they must be assembled by a fiddly method of picking up and dropping each piece. More traps are available, the snare being my favourite. This is only spoilt slightly by the unnecessarily difficult missile assembly.

In the final chapter, they meet up once more on an island in the Arctic. This cleverly creates a toe-chilling atmosphere with the inclusion of a body heat meter and a cosy igloo with a fire for melting the ice from your pinkies. Thin ice, deep snow and blizards are some of the natural dangers that await you. Cunning tricks you can play on your enemy include booby trapping icicles, spilling buckets of water and the hole in the ice trick. these are all rounded off with a good old snowball fight.

All these parts are very alike in their presentation and gameplay which were great innovations in their day. Fortunately, much of their appeal has stood the test of time. If you already have any of the three, the trilogy will offer more of the same. For those without any of them, the Spy vs Spy Trilogy will give rise to plenty of dual player scheming fun. Recommended.

T.H.



Price: £9.95 (C)
£14.95 (D)

SENSI SOCCER?

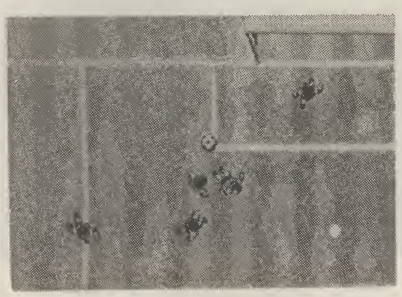
Preview
Sensible Software

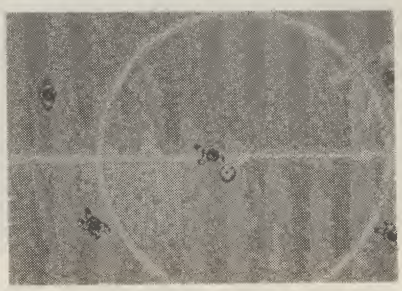
Those highly talented chaps known as Sensible Software have moved on from their fantasy shoot 'em up style of Parallax, Wizball and the Shoot 'em up Construction Kit with their latest project: Sensi Soccer. Well that's the name they've given the early version.They gave CCI an exclusive look at it.

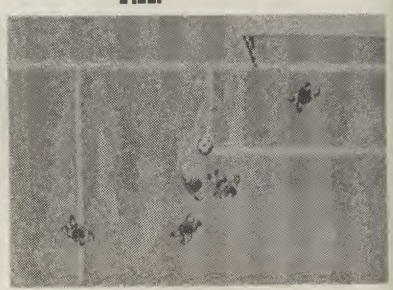
The observant ones amongst you will have guessed that this is a football game. Unlike previous footy games that have appeared on the 64, this takes a bird's eye vie of a large scrolling pitch in similar style to the excellent World Cup coin-op. Sporting such features as slide tackles, variable length kicks, chips and overhead kicks, and with the inclusion of cup competitions, set pieces and diving goalies it shows great promise.

Sensible Software look to have another winner on their hands and are open to offers from interested parties. Wanna buy a soccer winner?

T.H.





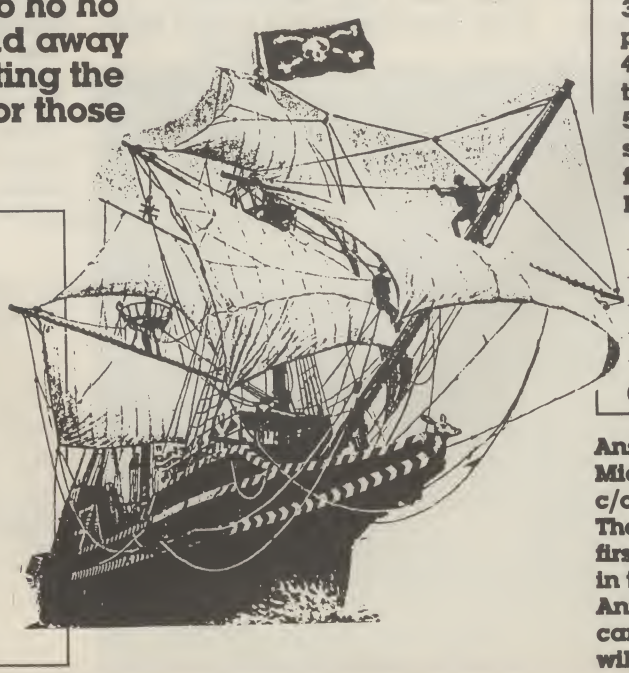


Pirates! (2nd Expedition)

This is the second section of Microprose's Pirates competition. Don't forget the winner gets a weeks' holiday for two in Barbados! So yo ho ho and a bottle of run and away you go. We are repeating the first set of questions for those who missed them.

PIRATES QUIZ

1. What is the highest title you can reach in Pirates?
2. How much is the Incas' gold worth?
3. What is the first member of your family you would rescue?
4. What is the minimum number of men needed to sail a ship?
5. What is the smallest ship you can sail?



PIRATES QUIZ

1. How far, in miles, is a 'league'?
2. What is the fastest speed a Spanish galleon can move?
3. At what age do you start privateering?
4. With which ship do you start the game?
5. How many days do you spend digging if you fail to find anything?

PIRATES is fun because ...

_____

_____

_____

_____

_____

(not more than 20 words).

Answers, plus proof of score, to the Microprose Pirates Competition, c/o CCI.
The entries will be judged each first of the month, and announced in the following issue of CCI.
Anyone, anywhere in the world can enter, but the prize holiday will start from a U.K. airport.

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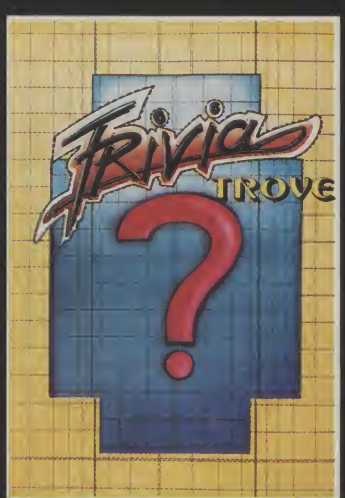

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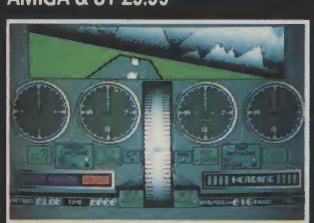

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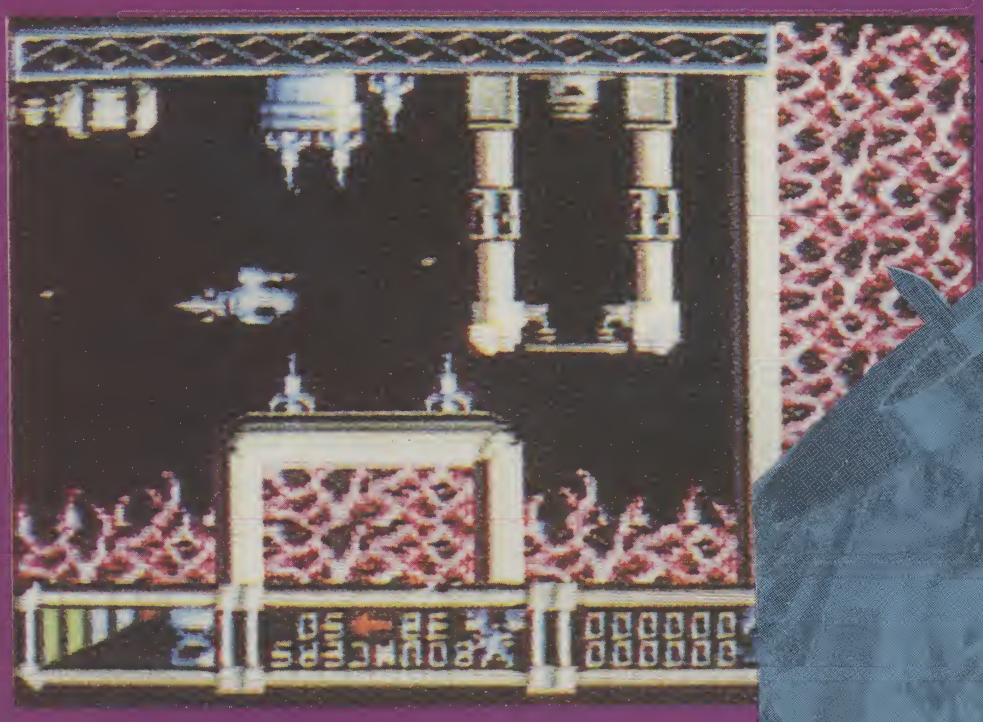
Reviews

At first sight, Cybernoid just looks like a Starquake clone. However, on closer inspection it becomes clear that it is not simply a clone of a single game but an amalgamation of a number of popular game styles, most obviously Equinox and Exolon.

Over the years your people have developed a variety of weapons for use in space battles. A neighbouring race of pirates, lacking the skills to produce their own weapons have raided your depots, taking your weapons with them, leaving your lot at their mercy. You are thought to be skilled enough to penetrate the enemy's artificial world and retrieve the stolen goods.

Under your control is a standard ship similar in appearance to that seen in Zynaps. The enemy base is viewed in a flick-screen style, with the locations combining to form a kind of maze. These are maze-like in that they twist and turn unpredictably, but form a continuous tunnel that follows a set route. Gravity is weak but its presence is enough in places to give the game a similar feel to a platform game. Apart from the usual lasers, the Cybernoid also has a great many additional weapons at its disposal. The keyboard is used to select one of five gizmos that come with the Cybernoid ship. Bombs find their way to the nearest horizontal surface and whilst being the hardest to aim are more abundant than the alternatives. Mines defy gravity and put a stop to aliens. A shield lasts for a few seconds and can be used for negotiating particularly tricky screens. Bouncing bombs, accompanied by excellent sound effects bounce around the screen blowing up any destructables. The fifth and most efficient weapon takes the form of seeker bombs that are guided automatically to their target.



RNOID

Hewson

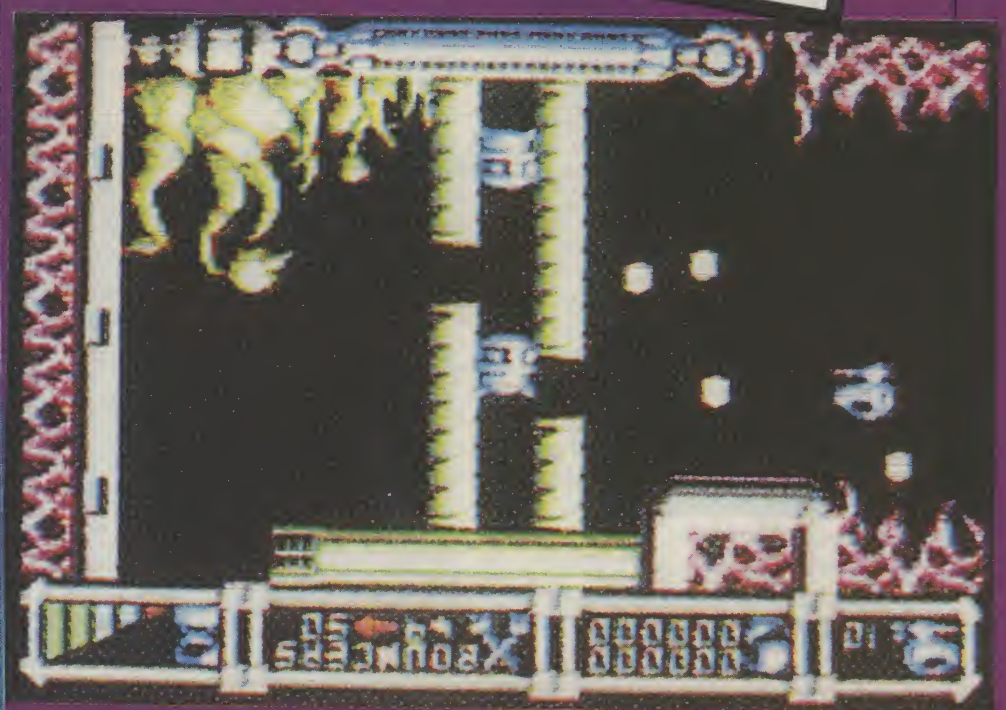
All of these weapons are essential for clearing the way of blockages and the sphere-spitting undergrowth. Blowing away such an obstacle results in a satisfyingly spectacular explosion. Yet more additional weapons can be collected from zapped aliens. The game is split into levels divided by storage depots. If sufficient goodies have been collected from aliens by the time you reach a depot, you will be awarded a bonus and an extra life. If on the other hand you fail to bring back enough booty, one life is lost before entering the next level.

Cybernoid scores highly on graphics, which can be a little bare at times but touches like the explosions and mutant plants make for some impressive visuals. A powerful piece of music can be toggled for some excellent sound effects that make a pleasant change from the usual weak blips and whooshes of many such games. Cybernoid is very derivative but mostly only of Raffaele Cecco's (the original author) earlier work. One annoying bug in the game is the lives counter which always shows 4, although in reality your lives are limited. Its familiar gameplay and lack of scope for exploration does detract extremely from a little well presented and programmed game. For an enjoyable progression of the Starquake theme, Cybernoid will serve you very well indeed. Highly recommended.

B.V

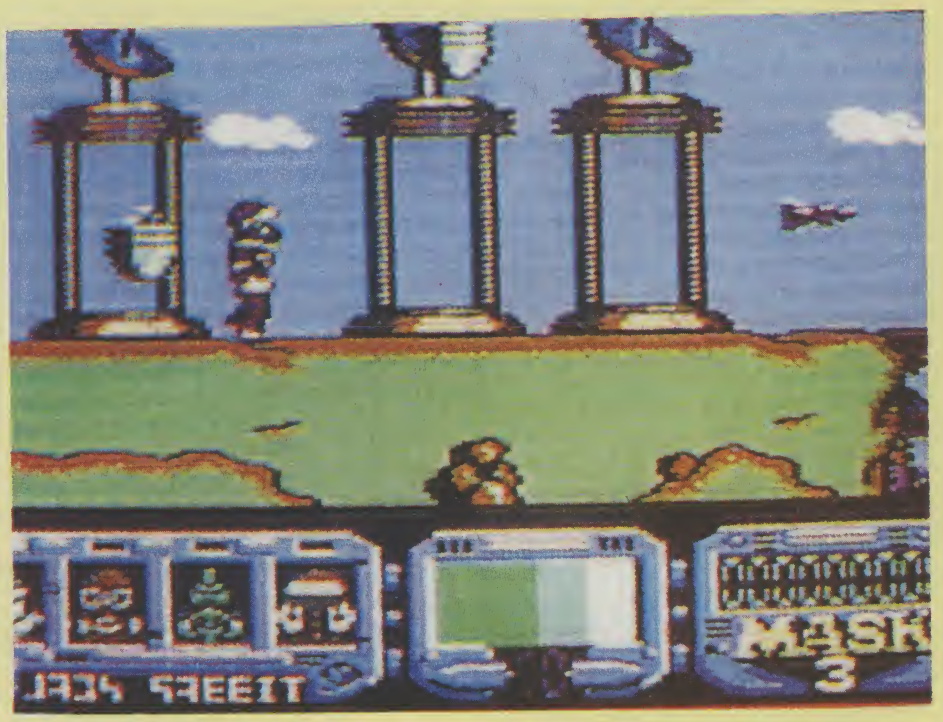
Price: £9.99 (cass)
£14.99 (disk)

Graphics: 82%
Sound: 90%
Playability: 78%
Overall: 79%
Rating: MEGA



VENOM STRIKES BACK

Gremlin



As if we had not had enough toy tie-ins, Gremlin bring us another in the Mask series. Scott, son of Mask's leader Matt Trakker has been kidnapped by Venom. Scott's homing transmitter has shown that he is being held in Venom's base on the moon. Being the heroic type, Matt decides to take on the rescue mission alone.

My, what an original scenario! This translates on screen to a game very similar to Mask II. The comic-strip instructions do little more than set the scene, all that is needed as the game's object and controls are pretty obvious.

To achieve his goal, Matt must negotiate a number of varied scrolling landscapes. These are riddled with Venom's defence systems, most of which take the form of bombs and missiles which drain Matt's energy on impact. Running from left to right, your progress will be hampered by chasms that need to be jumped over, gun turrets adding to the barrage of missiles and at the end of each short level, a well protected cannon, mine, missile or such like separates you and the exit to the next phase. Masks are found along the way which can be picked up and used to give different weapons and abilities such as flight.

"Masks are found along the way which can be picked up and used to give different weapons and abilities such as flight"

Most of the backgrounds are highly colourful and all scroll smoothly, but are generally lacking in detail, imagination originality. Matt and the rest of the sprites match these. A racey yet run of the mill soundtrack succeeds to a point in adding some excitement, but combines with the rest of the game to give a feeling of déja vu unsurprising in the third of a series. All these releases of the toys seem to be trying to strike a balance between simplistic gameplay and attractive colourful graphics. In doing this they have paid little attention to the underlying game, and so often ended up with unappealing games. The mix of playability and simplicity works very well with young players, a point demonstrated in Boulderdash and Kikstart which tend to be favourites with the nippers, sadly this seems a mix Venom is unlikely to achieve.

It might certainly appeal to fanatic Mask readers but I would think that Gremlin might consider carefully before adding to this Mask series on the computer — with this game it seems to have run out of steam.

Price: £9.99 (cass)
£14.00 (disk)

B.V.

Graphics: 43%
Sound: 40%
Playability: 36%
Overall: 38%
Rating: IFFY

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The Desktop Guide To Desktop Publishing

John Walker (Glentop Press Ltd. £8.50)

Desktop Publishing"- or DTP for short"- is going to change the face of the publishing world.

All those "little" magazines, the church newsletters, the club posters, even brochures and invitations, are now within the printing capabilities of anyone who possesses a computer and a modicum of commonsense.

As with all new programs, though, the thought of wading through the manuals that accompany them is, to many people, a daunting prospect. Fear not. John Walker's book, "The Desktop Guide To Desktop Publishing", (Glentop Press Ltd. £8.50), is here to help. It could well be sub-titled "The DTP Beginners Best Friend" for it contains a wealth of information, not only on how to use your DTP to its best advantage but on which program is the right one for your computer and what to look out for before you buy the software.

John Walker knows whereof he speaks. He is a journalist with executive experience on national newspapers and magazines and he wrote, typeset, designed and printed the original manuscript – or should it be computerscript? – using a 512 K Commodore Amiga 1000 running Gold Disk's Pagesetter and Pagesetter LaserScript software. He has my unbounded admiration. As one who is, at present, fighting my way through a DTP manual/program his book has come like manna from heaven.

Included in his DTP Guide are chapters on layout, graphics, design, style and if grammer is not your strong point he helps with that, too. If you're not sure which type of printing is best for the publication you are producing he gives you many illustrations, he shows what different kinds of layout look like and what and what not to do when designing a page.

One of the best pieces of advice he gives to the "amateur" is "don't try and compete with the professional on the printed quality of your work". "Domestic" printers, particularly dot-matrix, cannot match the excellence of the commercial world. What you can do, with the help of this book, is to produce work that is original and individual, fun to do and a pleasure to read.

The Amiga owner is in a particularly fortunate position for, as John Walker says, it has the best graphics programs available for any personal computer. So if you need to illustrate your written word with pictures it is easy to do so.

The "DTP Guide" is recommended for one other thing, too. It is written clearly and simply in language that the average layman-or-woman can understand. No complicated printers' jargon or publishers technospeak here either, there is a full glossary explaining all the terms you may happen to have seen elsewhere.

The appendices and the index are comprehensive. A Style Book lists fonts and typestyles that should be used to achieve consistency in your publications. (Important if you want to keep your readers "user-friendly"). There is also a guide to the software available, not just for the Amiga but for all the other computers around. In addition there is a list of the names and addresses of the leading distributors and/or publishers who produce them.

The "blurb", on the back cover of the book, says that "The Desktop Guide To Desktop Publishing" is intended for "novices or those intimidated by the thought of becoming a writer-printer-publisher". I couldn't have put it better myself.

DTP has been called the biggest revolution in printing and publishing for 500 years. If you want to be part of that revolution and to know exactly how to use your part of it to the best advantage, then this is the book for you.

D.M.

'Interzone — The 2nd Anthology'

(Simon & Schuster Ltd £10.95)

'Interzone' has been called the 'literate British SF and fantasy magazine' and the 'Washington Post' hailed its advent, in 1982, as 'the best new SF magazine in twenty years'. Its first published anthology was praised as 'exceptional', not to be missed at any cost' and now here is its second, 'Interzone — the 2nd Anthology', edited by three members of the magazine's editorial staff, John Clute, David Pringle and Simon Ounsley.

As with all anthologies the stories in this one range from the good to the very good and from the indifferent to — not to mince words — the rubbish, but most are, I am happy to say, in the first category.

The best known of the contributors is J.G. Ballard, whose book 'Empire of the Sun' became a best-seller which has recently been turned into a very successful movie. His 'The Man Who Walked On the Moon' is more fantasy than SF but, as with all of this author's writing, the characters come alive. An American translator in Ipenema befriends a down-and-out who makes a living pretending to be an ex-astronaut. The changing pattern of their relationship is the basis of the story and the quality of the writing makes the protagonists entirely believable.

Unfortunately the same cannot be said of Lee Montgomerie's 'War And/Or Peace'. I think it is supposed to be a statement in favour of nuclear disarmanent and the Greenham Common women — or the 'Wimmin's (sic) Peace Camp', as it's called in the story — but the author becomes so carried away in the tide of her own rhetoric that what might have been a good idea drowns in a sea of verbosity. According to the appendix, 'Notes On The Authors', Ms. Montgomerie is the Associate Editor of 'Interzone', (aha!), and, over the past decade, has written several short stories and numberous book reviews. Far be it what I should deprecate the work of a fellow-scribe but maybe she should stick to reviewing.

Mind you, there are some other decidedly odd tales, too. 'The Second Third of C', by Neil Ferguson, about an etymologist in a police state and his encounter with a prostitute. And 'The Brains Of Rats', another sex-orientated story which, in addition, gives lessons in biology, genetics and history. The author of this one, Michael Blumlein, has previously written, for 'Interzone' magazine, a story called 'Tissue Ablation and Variant Regeneration' which sounds more like a scientific paper than a science fiction story, but which proved, say the editors, to be extremely controversial.

There are, however, some very good stories in the book. Rachel Pollack's 'The Protector', in which the world is infested by a plague of insects whose bites cause schizophrenia; Scott Bradfield's 'Unmistakably The Finest', whose heroine dreams of riches and finds her dreams come true but with unexpected results, and 'King Of The Hill' by Paul J. McAuley. This story, of a boy whose hero is King Authur and who takes on that mantle when England is occupied by the Americans under the guise of 'protecting' us from the Russians is, to my mind, the best in the anthology. It is well-written and compelling.

'Interzone — the 2nd Anthology' is, like most anthologies, is, like most anthologies, a book to dip into when you haven't time to read a full-length novel. Will it make you want to buy the magazine? If you like the more 'modern' SF stories I think the answer is 'Yes'. Me? I'll stick with Asimov.

D.M.

Newsbytes on Compunet

The latest facility on Compunet is access to Newsbytes. This is a international online newspaper published on computer networks around the world. It has been available weekly since 1983 and carries news about everything from the latest Cray super-computers to well researched predictions as to the next machines to come from Commodore's development labs.

Newsbytes employs a small number of top computer journalists around the world who each contribute the latest news from their geographical area. The Newsbytes-UK section is written by Steve Gold. Other sections cover Europe, Japan, Canada and the South, East and West of the United States.

Although Newsbytes is available through one or two other online services in the UK, such as CIX, for most users accessing it through Compunet will be considerably cheaper. Newsbytes is free to users, only normal network access charges are payable. This makes Newsbytes on Compunet particularly attractive since Compunet is accessible via a local phone call from the vast majority of homes in Britain.

Because Newsbytes is supplied to Compunet as sequential files it is not possible to display the text using Compunet's normal Viewdata-style screen format. Instead a 'Link' is provided. When a user selects a Link on Compunet the host computer downloads a small amount of code into the user's computer. This adds special terminal emulation facilities to the Compunet software.

The Newsbytes Link provides a scrolling display and commands to view and save the Newsbytes text to disk or cassette. Unfortunately the Amiga version cannot yet save the text to disk, but Compunet say this facility will be added in the near future.

Once the Link has been selected the screen displays a pair of overlapping windows. The main window shows the Newsbytes menus and text while the second is used for typing in commands. If the cursor keys are used a third window opens in which the user can scroll back through the text downloaded so far. This is a very nice feature that has appeared in a number of terminal emulation packages written by Compunet users, but seems rare elsewhere.

Newsbytes is uploaded on 'The Source' in America on Saturday nights and is made available on Compunet by Tuesday evening, providing a very quick and economical way to obtain the world-wide computer news.

Newsbytes is by no means the only news service on Compunet, the Compunet staff as well as users, both as individuals and as groups, provide various other news services. Jane Firbank, Compunet's editor, writes Roundup, twice a week giving the latest news on what has been uploaded on Compunet. This task became so immense last year that Compunet had to start a second service, Biz, to handle the latest news about Demos, computer art and music programs uploaded on Compunet. Jason Gold updates this twice a week, too.

Compunet's users provide a wide range of news services according to their particular interests. The latest news on everything from soap-operas to computer communications can be found somewhere on Compunet. With the introduction of a professional world-wide news service onlin Compunet seems to have become even better value for money.

J.L.

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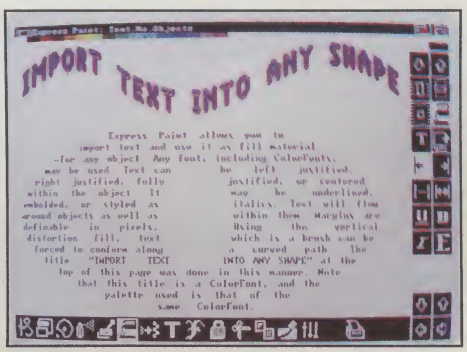

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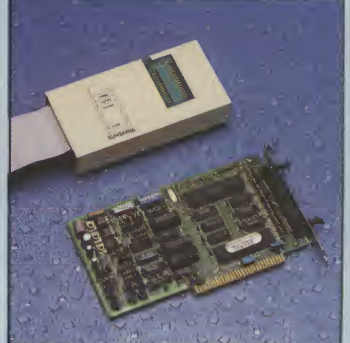

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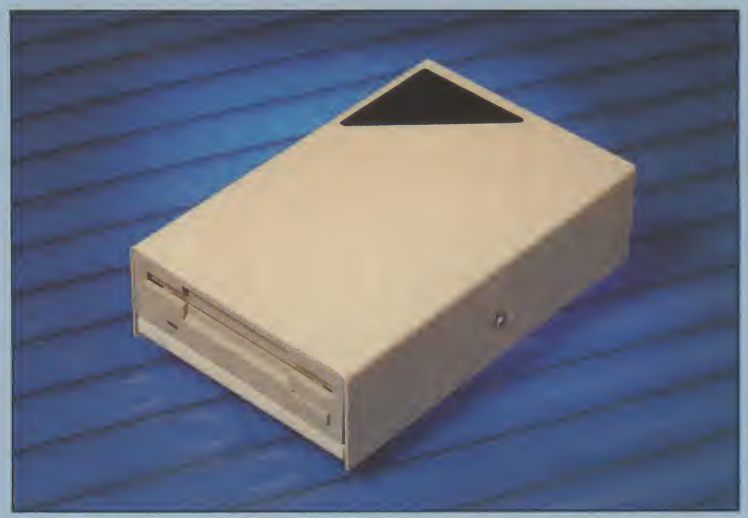

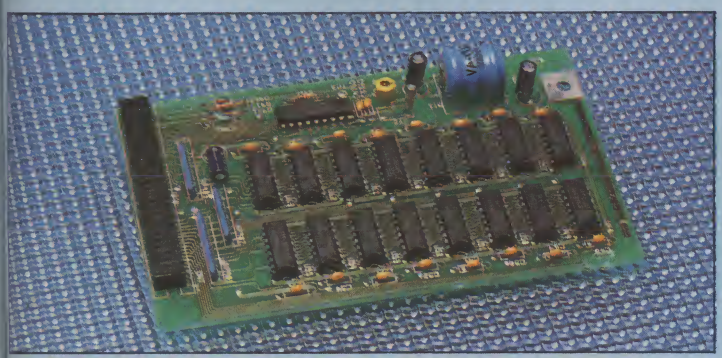

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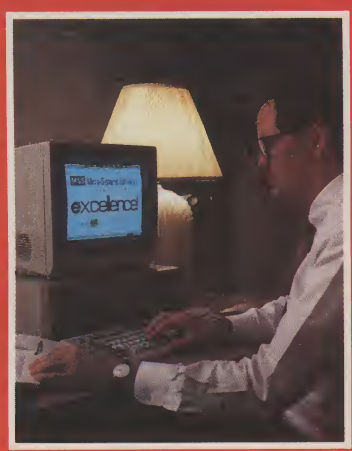

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There are always minor differences between programs design for the same application. *Before* you make your choice, consider these major differences between excellence! and several well-known word processing programs! Excellence! processes words perfectly and does it faster than any othe WYSIWYG word processing program available, giving the text-only programs a race for their money! (Not all progra claiming to be WYSIWYG really are. Excellence! shows y *everything*, including super- and sub-scripts, headers, foote footnotes, colors, and graphics!) Excellence! has all of the standard features too, including: mail merge, full clipboard support, full text styling, multiple methods of movement within documents, search and replace, and printer control! Excellence! has a drama collection of features that place it at the forefront of a ne generation of full-featured word processsors. Its innovatio include: full color support of text, inclusion of IFF graph images, spelling check as you type, basic ma capabilities within documents, multip column support, proportional font su port, Index generator, Table of Contents generator, integrated Thesaurus, integrated Grammatical and Style checker, and PostScript output!

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PHOTO FINISH

Laser Quality? Nigel Streeter examines a program that claims to deliver it on a Dot Matrix printer. "NEAR LASER QUALITY . . . ON YOUR DOT MATRIX PRINTER."

Quite a claim to make! Does "PHOTO FINISH" from Solutions Unlimited live up to it?

To quote from the introductin: "Photo Finish is not just an average print dump utility. It picks up where others leave off!". ".... gives you the ability to print any graphic image — hi-resolution, multi-colour and even the graphics used by Print Shop, Print Master and Newsroom — to nearly any dot matrix printer in many different forms and sizes." ".... you can print your image in "shades" of grey (commonly referred to as grey scaling) instead of the usual black and white."

To load the utility the instructions tell you to LOAD":*", 8, 1 but a quick peek at the directory reveals two "Boot" programs. "Boot" is the one that the above command will load and this includes the title screen and credits. The title screen is retained and may be printed out. The other boot program loads only the main program with some saving on the loading time.

"Photo Finish" makes extensive use of menus and sub-menus within hi-res Windows and these form the basis of a very easy to operate user-interface, along with all the necessary prompts and messages. All input is via the keyboard.

The opening menu contains the six major functions available to you; load a file, load a grey scale, save a grey scale, colour editor, print a picture and extra commands. Of these, three are fairly obvious; load and save a grey scale, and extra commands (which contains disk directory, dos commands etc.) A useful feature of the directory command is the ability to use pattern-matching and/or wildcards to select specific files to be displayed.

As most graphic/art packages use suffixes or prefixes to identify their files, these can be used to display only the files that contain them. On selecting "Load a file", you are taken through picture? If picture, is it hi-res, or multi-colour. Then onto which of many sucessive windows, to tell "Photo Finish" which type of file to load: Is it graphic or formats: Koala? Blazing Paddles? Newsroom? etc..

The "Colour Editor" allows you to modify both the image colours and the sixteen infividual shades of the grey-scale, to convert the image and display it as a "grey-scaled picture" BEFORE you print it. Obviously this is a very powerful feature as, with a little care and forethought some very interesting effects can be achieved. For instance, should you want to emphasise a particular colour in an image, you could alter the grey-scale for that particular colour, using the editor, and be able to see the results immediately. As I mentioned, you may also modify the image colours. The colour change is achieved by moving a box-cursor around the screen and altering it's size to enclose the portion you wish to change.

A feature of the program I particularly like is the way it displays the "change from" and "change to" colours. Not for this program the tiny boxes of almost indiscernable colour! "Photo Finish" splits the BORDER horizontally and displays the colours in each half!

The option that gives "Photo Finish" its undoubted power as a print dump utility is (not suprisingly) "Print a picture!" Upon selecting this, you are prompted

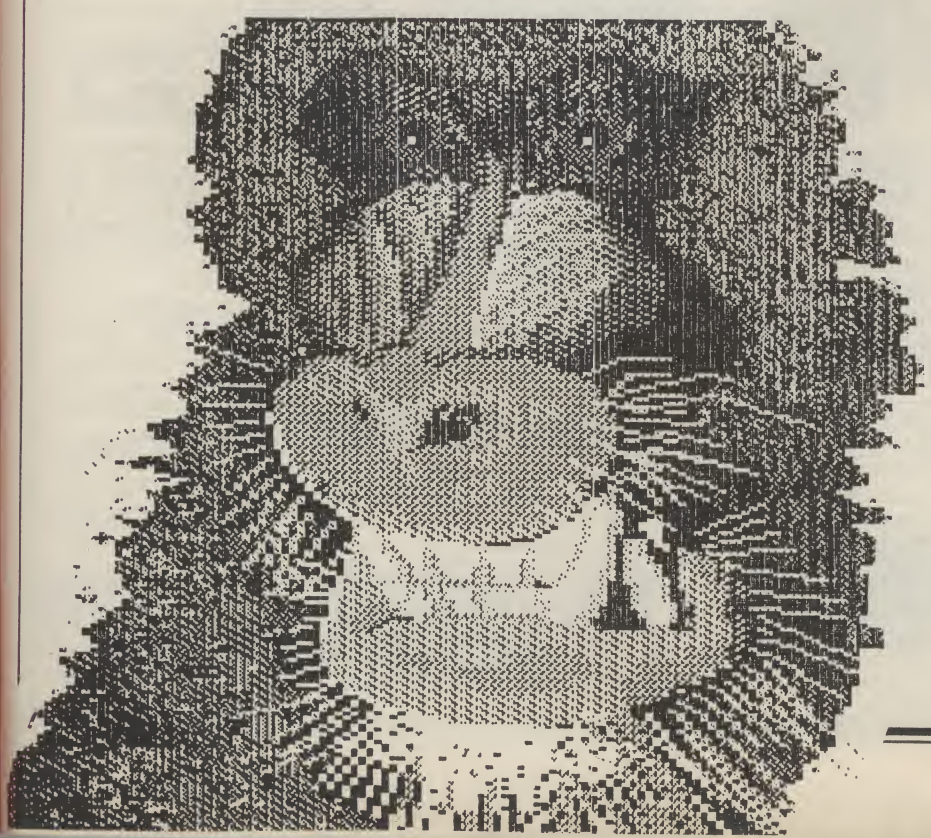
"A "Printer Setup Program" is supplied on the disk to enable you to make a customised driver for your particular printer."

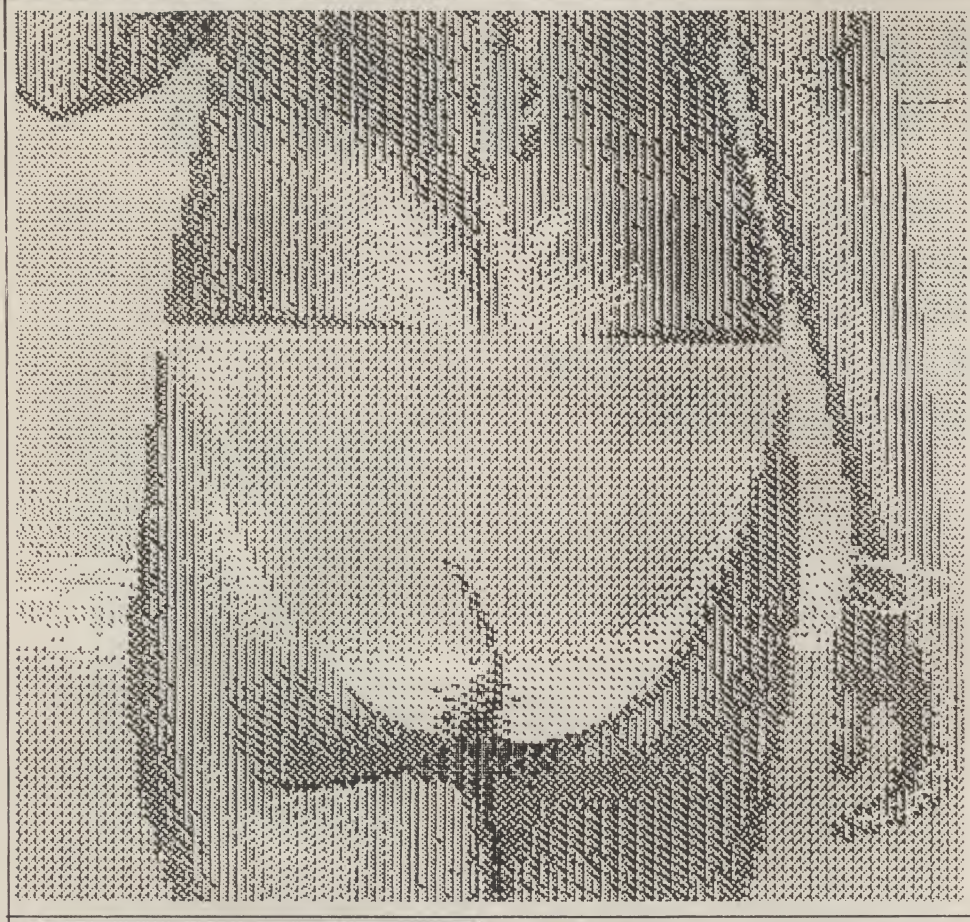
to select from four printer types including Commodore 1525/801, Okidata and Epsom. The fourth being "user defined". A "Printer Setup program" is supplied on the disk to enable you to make a customised driver for your particular printer. Giving you the aforementioned ability to use (nearly) any dot matrix printer. Next, come size, single (horizontal or vertical), or Quad (vertical only, it won't fit horizontally). Should you select Quad, you get to use something called the "Optimizer!!"

"The what?" I hear you cry!

"The OPTIMIZER!" I reply!!

Quote: ".... the printed image is either "smooth" but too small to appreciate or large enough to appreciate and "jagged". Photo Finish takes this fact into account with its' optomized print feature. By using this option the image printed .... is just as smooth, and sometimes smoother, than the image that appears on the screen!"





Well, you have to see it to appreciate what it means!!

Also included on the disk is a program for Geos users, called "Grafix-Link", that will convert full eight-column by fifty-row GeoPaint files to a format that may be used by "Photo Finish".

So, does it live up to that claim of "Near Laser Quality?"

I used a Commodore MPS801 (Mark IV (Steam) Version) for this review and I must admit that "Photo Finish" gave me results that I would not have thought possible from that printer!

I did have one or two minor gripes with the "Colour Editor"; not being able to change the background colour and why isn't the grey-scale save-and-load options included in the editor, rather than the opening menu?

In conclusion, "Photo Finish" is a well-presented and documented product that works well. While its' claim to "Near Laser Quality" may be just a shade opt imistic, if you require high-quality printed output of your graphic images, then I would highly recommend that you order a copy now!

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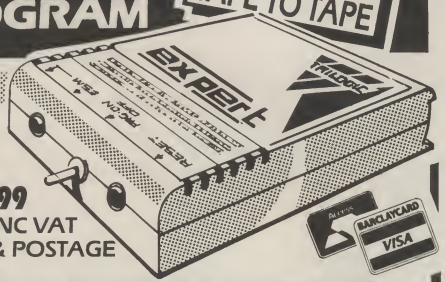

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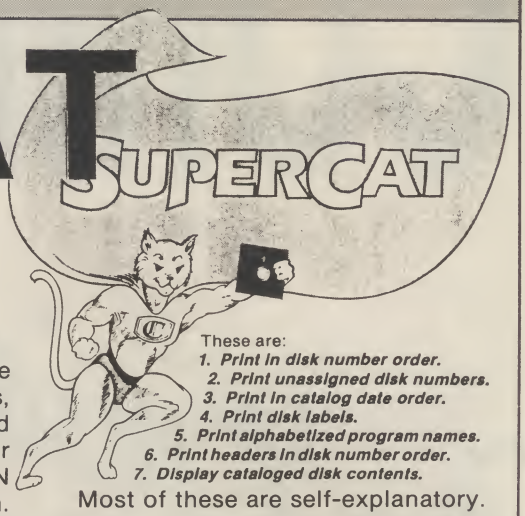
SUPERCAT

Felix? No! Peter McDonald tests a cataloguing system for non-database users



Recently a University Professor wrote to me, enclosing a copy letter which he had re-typed because though he knew it was there, somewhere, he could not find the original on disk. Supercat would have helped him. Its basic aim is to prepare on disk a directory showing all your disks and all the items on them.

Since data-bases take care of their own directories, we are left with three main categories of programs which require indexing if we are to be able to find what we want, when we want it. These are (i) documents which have been word-processed; (ii) utility programs (where IS that short routine for changing the name of a disk?) and (iii) programs we have written or copied from magazines.

Anyone whose interests exclude word-processing will eventually need some method of indexing programs. So SUPERCAT might appeal to them.

What can Supercat, described as a Disk Catalog system for the 64 & 128 in 64 mode offer, over and above the type of disk directory many of us have made from our w.p. programs? Mainly, perhaps an alphabetically-arranged list of every program, showing upon which disk it appears. As that can be printed out, the advantage is obvious. With the print-out to hand, you can find a required program quickly without having to load SUPERCAT when you are in the middle of something else. Now I agree that a w.p. disk directory (being itself a w.p. document) can also be printed out. But you would still have to look at each disk's contents in turn in order to find the program you want. If I want to know which disk contains (say) the letter I wrote to CCI on 13th July last year, I only have to look down the SUPERCAT Master Directory Alphabetical Listing, which I printed, to find that the letter I want (it is indexed under 'CCI') is on disk 120.

Preparing and using the program means juggling with three disks: the Program Disk (which is supplied), plus a 'Master Directory' disk, and a 'Catsort' disk, both of which you have to prepare, with the aid of the Program Disk, from two blank disks. Provision is made for single disk-drive, two separate drives or twin drives.

Both the manual (a pocket-sized printed booklet of 56 pages) and the program are user-friendly. Sometimes, after selecting an option, you are told what to do ('press any key'). At other times, you are not. Pressing RETURN in those cases solves the problem. Sometimes (e.g. on being given a choice between 'y' and 'n') one is unsure if one is meant to 'toggle' from one to the other. The answer seems to be that you type the desired letter. In some cases (though this is emphasised in manual and stated on screen) you have to type 'yes' in full, instead of just typing 'y'. This is usually to lessen the risk of deleting material, without careful thought (e.g. by formatting a disk).

"You can give the disk a number you choose, or the program will number them for you"

First you have to prepare the Master Directory disk, which includes giving your name and the date. The you add to that the directory of every disk you want to list. This is easy. The disk is placed in the drive and the contents are listed on screen. You can indicate which items you want to appear in the index itself (press f3 if you want to list all of them). You can give the disk a number you choose, or the program will number them for you. You can change the names of programs (for indexing purposes) and can enter them under several different titles (e.g. names/addresses; addresses/-names) and can cross-reference them. Later, of course, you can update the index.

Then, to get the best use from the program, you have to create a 'Catsort' disk. This takes data from the Master Directory and re-arranges it alphabetically. After you have finished processing, you have several useful facilities available to you.

First there is a 'search facility'... ask for the name of any item and the program will tell you upon which disk(s) it appears. There is provision for 'wild card' searches, that is to say a request for a string of two or three letters followed by an asterisk will produce a list of all items whose names begin with that string of letters. Once the 'Catsort' disk has been prepared you have seven print options. These are:

1. *Print in disk number order.*
2. *Print unassigned disk numbers.*
3. *Print in catalog date order.*
4. *Print disk labels.*
5. *Print alphabetized program names.*
6. *Print headers in disk number order.*
7. *Display cataloged disk contents.*

Most of these are self-explanatory. However, it is worth noting that in all cases of disk listing, the print-out not only lists all the items but tells you how many blocks are still unused on the disk. What is more, the program automatically converts everything into block capitals (upper case). (Some directories show upper case characters as graphics, which makes it difficult to identify the items.)

I have already mentioned that it is useful to have a print-out of option 5 (alphabetized program names), so that one can locate a program without having to switch out of a current program into SUPERCAT. It was another advantage... it shows whether you are keeping too many back-ups of the same program, and, if so, where they are.

What about back-ups? Neither the Master Directory nor the Catsort disks are protected; you can (and should) take back-ups by your preferred methods. But the Program Disk? The claims is that though you can make a copy of the Program Disk which may work all right for three to eight weeks, certain 'time-trapped' protection techniques will then come into effect. How will you know when this has happened? Your Master Directory disk will become disabled! I suspect that some adventurous buyers will be tempted to take a copy of the Program Disk, and use it to create an incomplete and not very important Master Directory, just to see if and when the trap is sprung!

But what if your Program Disk (the original) is accidentially ruined? Well, kind Cornucopia Software provide you with a free back-up disk when you buy SUPERCAT. They also register the names and addresses of all who purchase direct from them, and other can apply for registration. Cornucopia promise to give registered owners notice of upgrade releases.

I found SUPERCAT both pleasant and pleasing to operate. **P.M.**

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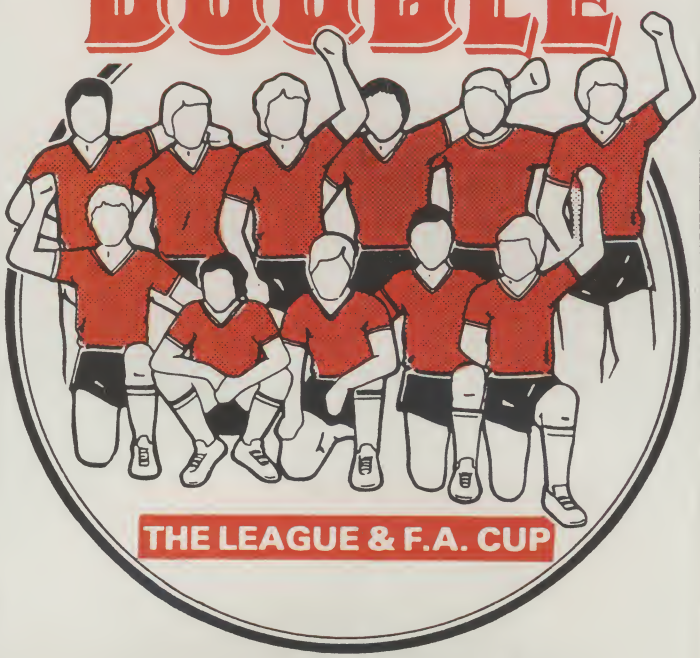

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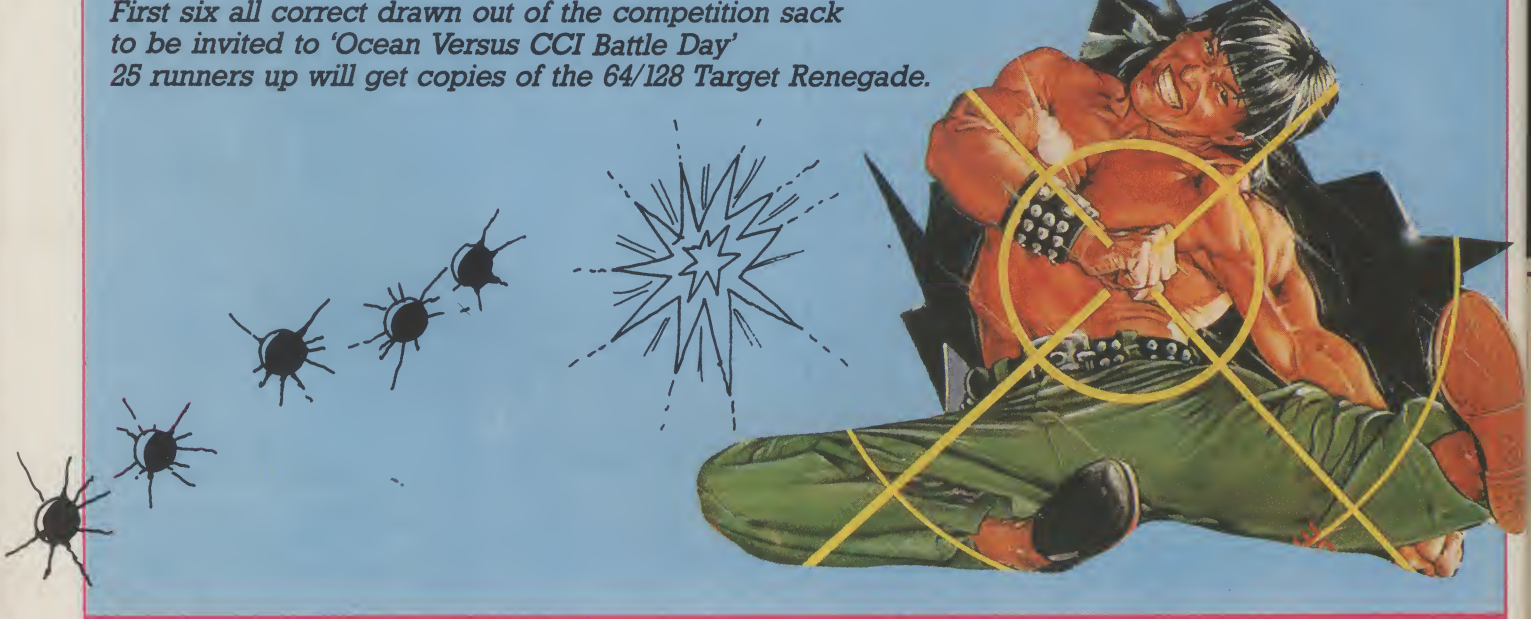

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- Colourful hi-tech target : with built in sensors and interface for automatic scoring.
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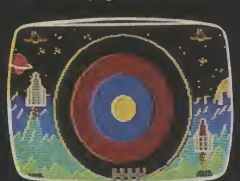
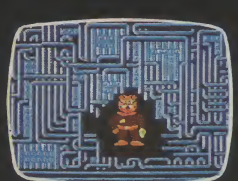
1. **'Competition Shootout'** An exciting game for one to four players – multilevel with fantastic sound effects : Stage your own target shooting competition!
2. **'Voyager 19'** For two players – with speech, music etc : Rapid alternate firing and graphics displays for a fast and furious game.
3. **'The Alien Team'**. Can you penetrate the defences and outshoot all members of the elusive alien team? A combined Target/ Joystick Game.

Gamma-Strike makes the perfect gift and comes attractively packaged with instructions and fully guaranteed.



Voyager 19



The Alien Team

Screen Shots for Commodore 64

GAMESWARE

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Liverpool L1 1DE
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Please supply .... GAMMA-STRIKE target system(s) at £19.99 each.
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(Delete as appropriate)

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If you're aiming for a brand new micro experience – fill in this coupon and send for Gamma-Strike NOW!

PLEASE NOTE: If you do not wish to cut out this slip, you may send your payment with an attached note giving the above details.

Please allow 28 days for delivery.

or debit my ACCESS/VISA card Expiry date No

SPRITE DESIGNER

Sprite Designer 64 is a powerful tool that will allow you to create and edit sprites on screen in Hires or Multicolour mode. Kashif Baig's will also let you save your creations to tape and recall them later.

Sprite Designer 64 stores the sprite data from memory location 16384 onwards and allows a 14K basic program to be resident in memory at the same time. Sprite Designer itself is just over 2K in length and sits from 49152 to 51297 in memory.

Type in the listing and after all errors have been corrected save it to tape on disk. I suggest you save the code using a machine code monitor as you will not have to RUN the program each time you load it.

To activate Sprite Desiger 64 type:- SYS51267,s where s is the speed of the pointer. 0 for slow and 1 for fast.

Once started, you see a grid, a menu plus the actual sprite. Plug a joystick or joystick compatible mouse in port 2 and you're now ready to use the designer. Basically you move the pointer using the joystick and press the fire button to draw on the grid or select an item from the menu.

How To Use The Designers' Features

CLEAR — Make sure the pointer is pointing at the clear icon and press fire. The grid will clear

FORWARD — To create a new sprite without destroying without the previous one, point to Forward and press fire. Holding the fire button down continously has the effect of making the program skip-search through the sprite data.

REWIND — To go back on a previously created sprite, point to Rewind and press fire. Holding down fire continously has the same effect as in Forward.

DELETE — To go into delete mode, point to delete and press fire. In delate mode you can delete a sprite dot by dot.

PLOT — To exit delete mode and go back to plot mode point to Plot and press fire.

MULTI — Selecting Multi enables you to draw a sprite in any of the three colours in the palette. Just point at the desired colour and press fire. The border will change to the colour chosen and anything drawn on the grid will have the same colour as the border. To change the colours in the palette, point to either C1, C2 or C3 and press fire.

NORM — If you wish to exit multicolour mode then point to Norm and press fire.

LOAD — To Load sprites previously created by Sprite Designer, point to Load and press fire. You will be asked to type in the name of the file you wish to load.

SAVE — To save first of all make sure that the sprite you created last is displayed on the screen. If not, then use the Forward or Rewind to get to it and point to Save and press fire. Next, move the pointer to any position inside the grid and press fire. You will now be asked to type in the name of the file you wish to save.

INVERT — To flip the current sprite upside down, point to Inv and press fire.

REVERSE — To flip the current sprite side to side, point to Rev and press fire.

```
5 REM *** SPRITE DESIGNER 64. (C)KASHIF BAIG 1988 ***
10 PRINTCHR$(147):LN=100:FORM=49152TO51297STEP15:CS=0
20 FORX=0TO14:READN:POKEM+X,N:CS=CS+N:NEXTX:READC:PRINTCHR$(19)LN
30 IFC<>CSTHENPRINT"** DATA ERROR ** IN LINE"LN:END
40 LN=LN+10:NEXTM
50 END
100 DATA169,1,141,21,208,169,13,141,248,7,169,24,141,0,208,1660
110 DATA169,50,141,1,208,162,0,189,227,192,157,64,3,232,224,2019
120 DATA64,208,245,120,169,66,160,192,141,20,3,140,21,3,169,1721
130 DATA26,160,65,141,4,220,140,5,220,169,129,141,13,220,169,1822
140 DATA145,141,14,220,88,96,173,0,220,41,15,201,15,240,95,1704
150 DATA201,14,208,6,206,1,208,76,170,192,201,6,208,9,206,1912
160 DATA1,208,238,0,208,76,170,192,201,7,208,6,238,0,208,1961
170 DATA76,170,192,201,5,208,9,238,0,208,238,1,208,76,170,2000
180 DATA192,201,13,208,6,238,1,208,76,170,192,201,9,208,9,1932
190 DATA238,1,208,206,0,208,76,170,192,201,11,208,6,206,0,1931
200 DATA208,76,170,192,201,10,208,9,206,0,208,206,1,208,76,1979
210 DATA170,192,76,49,234,173,0,208,201,24,144,18,201,254,176,2120
220 DATA22,173,1,208,201,50,144,23,201,245,176,27,76,49,234,1830
230 DATA162,24,142,0,208,76,177,192,162,254,142,0,208,76,181,2004
240 DATA192,162,51,142,1,208,76,188,192,162,245,142,1,208,76,2046
250 DATA49,234,128,0,0,96,0,0,120,0,0,62,0,0,63,752
260 DATA0,0,30,0,0,30,0,0,9,0,0,0,128,0,0,197
270 DATA64,0,0,0,0,0,0,0,0,0,0,0,0,0,0,64
280 DATA0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
290 DATA0,0,0,0,0,0,0,0,0,0,0,0,0,0,142,142
300 DATA90,198,174,94,198,208,39,162,0,10,72,176,8,169,186,1784
310 DATA32,210,255,76,80,193,169,18,32,210,255,169,32,32,210,1973
320 DATA255,169,146,32,210,255,104,232,224,8,208,223,174,90,198,2528
330 DATA96,141,91,198,41,192,74,74,74,74,74,74,32,138,193,1566
340 DATA173,91,198,41,48,74,74,74,74,32,138,193,173,91,198,1672
350 DATA41,12,74,74,32,138,193,173,91,198,41,3,32,138,193,1433
360 DATA174,90,198,96,201,0,208,15,169,14,141,134,2,169,186,1797
370 DATA32,210,255,169,186,76,210,255,170,202,189,95,198,141,134,2522
380 DATA2,169,18,32,210,255,169,32,32,210,255,169,32,32,210,1827
390 DATA255,169,146,32,210,255,169,14,141,134,2,96,160,0,162,1945
400 DATA0,177,251,32,43,193,200,232,224,3,208,245,169,13,32,2022
410 DATA210,255,192,63,208,234,96,160,0,185,100,198,201,13,208,2323
420 DATA11,32,210,255,169,27,133,211,200,76,218,193,201,0,240,2176
430 DATA7,32,210,255,200,76,218,193,76,207,196,32,0,192,169,2063
440 DATA0,141,98,198,169,0,141,99,198,169,0,141,94,198,141,1787
450 DATA28,208,169,147,32,210,255,32,216,193,173,21,208,9,2,1903
460 DATA141,21,208,169,240,141,2,208,169,60,141,3,208,169,255,2135
470 DATA141,249,7,169,0,133,251,169,64,133,252,160,0,177,251,2156
480 DATA153,192,63,200,192,63,208,246,169,19,32,210,255,32,191,2225
490 DATA193,169,1,141,32,208,141,40,208,169,38,141,5,220,173,1879
500 DATA0,208,74,74,74,56,233,3,141,7,199,173,1,208,56,1507
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520 DATA141,134,2,169,32,133,211,169,17,32,210,255,174,7,199,1885
530 DATA169,0,32,205,189,169,32,32,210,255,169,32,32,210,255,1991
540 DATA174,8,199,169,0,32,205,189,169,32,32,210,255,169,32,1875
550 DATA32,210,255,173,0,220,41,16,240,3,76,87,194,173,7,1727
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580 DATA199,74,74,74,24,101,253,133,253,173,7,199,41,7,133,1745
590 DATA254,173,94,198,208,91,164,253,166,254,173,98,198,240,39,2603
600 DATA189,9,199,73,255,133,254,177,251,37,254,145,251,153,192,2572
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650 DATA146,32,210,255,76,87,194,164,253,70,254,166,254,173,98,2432
660 DATA198,240,47,189,25,199,73,255,133,254,177,251,37,254,145,2477
670 DATA251,153,192,63,174,8,199,173,7,199,41,254,168,24,32,1938
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690 DATA210,255,76,87,194,173,99,198,201,0,208,6,189,17,199,2112
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720 DATA254,145,251,153,192,63,174,8,199,173,7,199,41,254,168,2281
730 DATA24,32,240,255,174,99,198,189,95,198,141,134,2,169,18,1968
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810 DATA198,232,142,39,208,76,87,194,32,55,196,76,87,194,165,1981
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890 DATA196,169,2,141,28,208,169,1,141,94,198,173,95,198,141,1954
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960 DATA87,194,238,95,198,173,95,198,141,37,208,173,0,220,41,2098
970 DATA16,240,249,169,147,32,210,255,32,191,193,32,216,193,76,2251
980 DATA102,197,238,96,198,173,96,198,141,40,208,173,0,220,41,2121
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1160 DATA170,168,32,186,255,173,63,199,162,96,160,200,32,189,255,2340
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1260 DATA146,32,67,51,13,18,163,163,146,32,78,79,82,77,13,1160
1270 DATA18,163,163,146,32,76,79,65,68,13,18,163,163,146,32,1345
1280 DATA83,65,86,69,13,18,163,163,146,32,73,78,86,13,18,1106
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1320 DATA12,42,72,114,197,234,122,226,195,196,196,196,196,196,196,2390
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1530 DATA0,0,0,0,0,0,0,32,0,0,0,0,0,0,0,32
```

★ Program Submission Procedure ★

DO NOT submit any program or routine that you do not either own or have proper authority to do so.

ALWAYS include your name, address and the date on all material and any enclosures.
Do not forget to to make it clear exactly which computer/s your program or article is applicable to.

Include ROM or DOS versions wherever they are pertinent.

Number all pages.

If you have to submit work which is hand-written then you must make sure it is printed clearly.

Never use staples. Use paperclips if necessary.
If you are saving your program to tape then save it AT LEAST twice on each side.
When you save a program on disk save it twice and call the second file "BACKUP".

Remember to label all tapes and disks with your name and the title of the program. Label tape or disk with your name and the name or title of the program.

Always ensure that disks are well packaged. They should ideally be sent in a commercial disk mailer or at least packed between two pieces of hardboard or rigid plastic.

Please allow at least 8 weeks for acknowledgement as all programs have to be thoroughly tested and made into a suitable format.

Enclose a self-addressed stamped envelope or package if you would like your program to be returned.

★ Programming tips ★
If you can, use CHR$(x) type commands instead of those hard to read graphic symbols.
If necessary renumber your program on completion as many readers use auto number utilities to ease typing in.

Try to keep instructions within the program itself at a sensible level. You can expand on them within the accompanying text if necessary.

TEST your programs before submitting them or even better get a friend to test them for you.

If a program contains machine code data please use decimal and not hex as there are fewer digits to be confused. Try and keep the same number of data statements in each line. Please add some form of error checking if your program contains more than five lines of data.

ATF

Digital Integration

Something is happening out there .. Or rather up there. About a year ago in CCI, we wrote that flight games were taking off. Put it on the cover in fact. We were obviously right for since that time there has been a steady flow of a type of "game" that until then had hardly penetrated the conciousness of most shoot 'em up and down gameplayers. This development was what has been called the Combat Simulation. Of course, as per last issue's review of Microprose's Project Stealth Fighter, some companies had been doing it for a long time — in fact, Microprose has built its whol business on it. They produced Gunship in that same mode. The closest U.K. company to match them in the helicopter was Digital Integration whose Tomahawk was also rightly acclaimed as an astounding example of the Combat Simulation style.

By coincidence just a month after Microprose's version of the hideaway attack plane comes out, D.I.'s latest hits the sides. How does it compare to the Microprose classic and also the other raft, sorry, squadron of flyers about to buzz our screens? Yes for yet to come are Mirrorsoft's Strike Force Harrier on the Amiga, and Sublogic's Stealth Mission — Sublogic also have out the famous JET on the Amiga and the 64, too.

Well, in the face of all this tough competition, D.I.'s Advanced Tactical Fighter stands its ground, or flies its airspace, extremely well. One of the reasons for this is that D.I. have moved away a little from the utterly faithful representation of dials and instruments, flaps and rudders that the usual simulation seems compelled to follow. They have produced a Combat Sim that is certainly more combat than simulation — and plenty not too fanatically particular computer gameplayers will applaud the result.

"They have also reduced the number of controls that you have to master and also included useful auto pilots."

They have chosen to offer views that are outside the cockpit — from both above and behind. They have also reduced the number of controls that you have to master and also included useful auto pilots. You have to sellect for yourself which missions to ge on for you are a key weapon in the midst of a war that you can help with. You are able to choose appropriate weapons for air-to-air combat or for attacking ground targets with such delightful little items as Maverick missiles. They have the advantage of letting you stand off some 100km and homing in by themselves on the target without you having to get too close for comfort.

"Digital Integration's ATF is an example of the kind of program that gives simulations a good name."

There are some eight levels of skill and your task is to rise up the ranks to the top — ATF ACe.

One of the most important things in any game of this sort is how convincing the graphics make the whole atmosphere and in this D.I. have certainly come up with the technical and artistic goods. They are highly colourful and lend a distinct air of reality to the complete structure. There is not a great deal of sound. But so what? What do you want? Air hostesses voices on the intercom? Engine noise acts boring anyway.

The fact is that Digital Integration's ATF is an example of the kind of program that gives simulations a good name. For a long time there was a big section of the home computer population that would not touch the simulation style offering with ten foot joystick. But now we are seeing a brilliant combination of technically convincing background and detail with all the excitements of a genuine shoot 'em up arcade blaster. And who can complain about that? ATF is going to win a lot of battles out there in the hostile skies and a lot of fans for the home computer screens. Keep up the good work, Digital Integration.

Z.M.S.

Graphics: 85%
Sound: 64%
Playability: 79%
Overall: 77%
Rating: MEGA
Price: £8.95 (cass)
£12.95 (disk)

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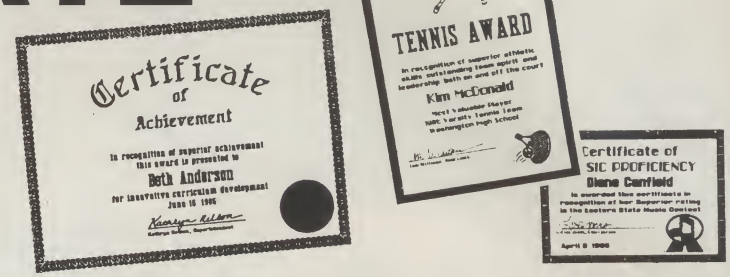
CERTIFICATE MAKER

Springboard

C-64, 128 Disk drive and dot matrix printer required



CERTIFICATE MAKER provides a very simple way of producing professional-looking certificates and awards for absolutely any occasion. Just choose one from its enormous library or, for that really personal touch, create your own. It is just a case of pressing a few keys. Springboard have included 220 certificate templates, some of which have been left blank so that you can fill in your own award title. Among the Pre-titled templates are both serious and lighthearted subjects, making the program equally suitable for the teacher who wishes to reward her deserving students, the parents who wish to encourage their child to eat his vegetables, or the office joker. The package consists of two disks, an excellent instruction manual and 36 seals and stickers which will add that finishing touch to your most special diplomas.

Each certificate is made up of six parts:

A TITLE: This might be a complete title, such as "Track and field award" or "Pigsty award" or a partial title, for example "Most likely to..." or "Certificate of...". Some templates are simply left blank for you to fill in.

AN ILLUSTRATION: Quite a few of the templates include illustrations. These may be of either a serious or humorous nature.

A BORDER: CERTIFICATE MAKER comes with 24 different border designs to choose from. These include some fairly typical designs such as "legal", "spiral" and "art nouveau" but also some less usual made up of skulls, ducks, hearts or even disks!

BODY TEXT: There is a space on every template where specific information about the award can be entered. For example you will want to show the name of the person to whom the certificate is being presented and perhaps why etc. There is a choice of five different font styles in two sizes in which to do this.

A DATE LINE: Most of the templates have a small space where you can enter a date or, if that would be inappropriate, then some other text.

A SIGNATURE LINE: This is a line drawn on the certificate, below which you should include the name of the signatory.

Each certificate comes in a predetermined size and shape. It may be vertical or horizontal, taking up a whole 8.5ins x 11ins page or a small certificate half that size.

Before you begin using CERTIFICATE MAKER, you must first initialize a blank disk if you wish to store any data as it may not be saved on the master program or Certificates disks. The program will operate with either one or two disk drives but if a second drive is to be used then it must be set up as device nine. 128 computers may only be used in 64 mode. Once loaded, CERTIFICATE MAKER will auto run and take you straight to a very attractive main menu. From here you can choose between building a names file, creating a certificate or exiting the program. All options can be selected by means of either the cursor keys or the joystick and return key (Joystick operation is not covered in the booklet?).

CERTIFICATE MAKER has the facility to put different names on several copies of the same certificate. This is especially useful where for instance, an identical award is being given to each member of a class or group. The names which you may be likely to need. Prior to printing a certificate you are given the opportunity to specify the names you wish to use from these lists. Each list may contain upto 75 names which can be modified, deleted etc as required.

To create a certificate you select "Make certificate" from the main menu. This will produce a prompt asking you to enter a template number. These can be found in the accompanying booklet which contains pictures of all the templates, numbered 1 to 220 and also has examples of the different borders etc. Once you have entered a number you must decide which border you would like. To help you in your choice a list of those available is shown on the screen. As you move the cursor over each name the selected border is shown. All that need be done is to press the return key when you find the one you like. If the template you have chosen comes with a completed title then you will be urged to choose a font style for the body text. A very nic touch here is the way an example of each of the font styles is shown as you scroll through the list. If the title is incomplete then you will be allowed to enter your own in whichever font you prefer. Lastly, you are asked to enter the Date and Signature details. If you intend to make copies for more than one person you must select the appropriate names list at this point.

The final stage in the process is the printing of your masterpiece. The print menu contains details about what printer and/or interface the program is set up for. If they do not match what you are using then they may be changed using the "change setup" option. This presents you with an alphabetical list of all the printers and interfaces which can be used with the program (and a pretty impressive list it is, too). Once you have made any necessary alterations you should not need to change them again unless you change printers as the setup is stored on disk and is 'remembered' for the next time you use the program. You do not need to print out a whole certificate to see whether your paper is properly lined up or if the setup is correct as a print-test routine is included. When you are happy that everything is as it should be, select "Print certificate" to do just that. Once printed you might like to stick one of the specially designed gold foil or coloured seals on the bottom to make it look really impressive. The program will return to the print menu.

CERTIFICATE MAKER is very friendly and could be used by just about anybody, regardless of whether they have ever used a computer before. At any point during the program you can correct unentered typing errors. You may also jump back to the previous line of text, screen, or even the main menu. The accompanying booklet is very well laid out and easy to follow. For schools, clubs and organizations it is a source of cheap, but nonetheless professional looking, awards and diplomas. It can also provide all of us with a means of fun. I am sure we all know someone who deserves at least one of the dubious honours provided in the booklet. I personally would like to bestow the CCI award for the best certificate maker to Springboard! Hold on a moment... I'll just print one out!

M.B.

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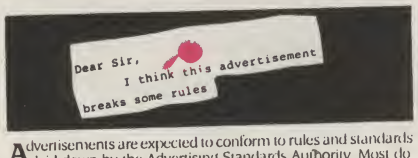

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U.S. Gold's four

U.S. Gold is to release four new major titles. Lazer Tag, Shackled, the eagerly awaited Charlie Chaplin and a nuclear disaster simulation, Chernobyl.

In Lazer Tag, you are in the year 3010, where you are a Rookie Cadet at the Lazer Tag Training School where you must attempt to gain promotion through six ranks beginning at Neophyte — the first level through too the Duelist — the sixth and final level.

At the Neophyte stage you will play through a fast and furious shoot 'em up against your fellow play mates — you must 'tag' out as many computer controlled players without being tagged first. Hit the reflecting prisms and send your 'tags' off in all directions for maximum effect, shoot the revolving terminals and you will double your fire rate. Receive six tags and your out!!

Shackled is a coin-op conversion from Data East, that has you searching a vast prison, exploring the endless corridors and dungeons so you may find your comrades. Once you have rescued them, they will follow you and help fight against the attacking hordes in a desperate bid for freedom.

Over 112 levels of intrigue and action await you. The deeper the dungeons are penetrated the meaner the enemy defences become. An extensive range of weapons are at your disposal from swords, fireballs and spears to boomerangs. Even a speed bonus is there for the taking. Pick up all the keys to open huge dungeon doors which cannot be destroyed by shooting as each prisoner rescued will carry his own special weapon to add to your armoury. A feature of the game is that you can take a friend to help you out! This doubles your firepower and naturally, your chances of success — but only if you can co-ordinate your strategy!

U.S. Gold tells us it is - a totally unique game with a whole new concept. As a producer, director and financier, your prize star Charlie Chaplin is on form to make you a million.

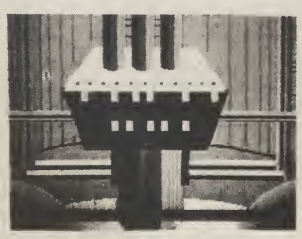
To start the game you have a choice of scripts to direct. Each script will tell you how many scenes you will have to produce and the characters needed. Select your backdrop scene, cast your film and you are all set for Scene 1 and ACTION!

The action sequence plays like a level in a fast moving arcade game, where you control the antics of Charlie Chaplin with your joystick — clash with the Policeman and you're sure to get a laugh, but avoid the drunk who will hold on to you and cost you a time penalty — and in the movie business time is money!!

Once all the scenes have been shot, you can then release the film to the eagerly awaiting public, where you will experience all the atmosphere and tension on the opening night — will it be a box office hit??

Charlie Chaplin is a game where you can create, edit and then sit back and watch your very own silent movie.

Following the recent tragic accidents at two nuclear power plants, the industry, the regulatory bodies and the public were obliged to take a new and critical look at the practicalities, in light of safety considerations of Nuclear reactors as viable energy sources. But just how is such a disaster avoided? How does a Nuclear Power Plant work? If you were in control, could you have avoided a tragedy? U.S. Gold asks "Could you have prevented the catastrophe of Chernobyl? "



From Cosmi, Chernobyl is an authentic computer simulation by Paul Norman — author of the Super Huey helicopter flight simulator series. In Chernobyl, the player's computer simulates being in the central control room of a major nuclear power plant. How you respond to each new crisis and in what sequence may determine the safety of millions of people — not to mention thousands of square miles of land at your fingertips.

You can gain an insight into the workings of a nuclear power plant, and the excitement and challenge will build as you learn the intricacies and dangers of atomic fission.

All four games will be for the C64 at £9.95 (c) and £14.95 (d).

MicroLink's try before you buy

MicroLink, the Uk's fast growing electronic mail service, is now offering a try before you buy facility. Computer users who haven't yet seen the range of services MicroLink has to offer can now logon directly for a free interactive demonstration.

All they need is a 1200/75 baud modem and telephone connection to 01-583 1275 to make use of Dial-a-Demo.

There are four sections to browse through — communication, information, services and leisure — each describing a different aspect of the system.

Contact: 0625 878888.

Uninteruptible Power

In the computer industry the spread of desk top computing and networking means that individual desktop line conditioning of the mains and power supply backup are becoming more important.

To avoid lost time on created programmes and corrupt data Galatrek have brought out CUPS, Computer Uninterruptible Power Supply. Price £299.00 + C & P at cost + VAT for the CUPS 250, a 250VA model with 10 minutes battery back up.

These small units which fit on, under or beside a desk, are 200W × 400D × 300H mm in size, and weigh 23Kgs. They are claimed to be economical to use and have a special circuit to reduce the amount of electricity consumed. Harmful noise and spikes on the mains are filtered and when necessary in a mains failure or very low mains situation the CUPS provides a clean, stable electrical supply from its own internal batteries Contact Galatrek 0492 — 640311/641298.

It is noiseless except when the internal battery is powering the computer, when there is an audible mains low/failure alarm to allow dumping to disk before system shutdown.

MicroLink multi-speed modem
£169.00

ICPUG is a highly influential organisation and brings many benefits to its members across the whole range of Commodore activity. CCI considered that a regular column from ICPUG would be of interest to many readers. The views expressed by ICPUG may not be those of CCI

Icpug has a section which collates information on Technical matters on behalf of the Group. Amongst the membership, many volunteers are listed in a technical help index. It is indexed by their speciality and listed in the newsletter at least once in every membership year. These members are ready to answer questions, either through the technical section or direct from other members. ICPUG also offers members a source of technical information on all Commodore products.

The enquirer must produce a current membership number before any query can be dealt with. Like all the other ICPUG services it is run by enthusiasts on a voluntary unpaid basis.

The section provides a mail service as long as the query is accompanied by two envelopes and two stamps. Only one envelope should be addressed for the reply to be returned. The second envelope and stamp is for the query to be mailed to the correct specialist helper. For members on Compunet there is a technical and help area in the members jungle. Again membership numbers should be quoted. Members must allow enough time for the letters to be sent on to helpers and more time for them to deal with the questions.

ICPUG, does not, of course, repair computer equipment, but we may be able to advise on how to tackle it or where a particular service could be obtained. Although we make every effort to ensure our information is correct and reliable, we cannot accept responsibility for any mishap arising out of information given.

ICPUG welcomes any suggestions, ideas, information and any help and assistance that members can offer because, after all, we are a self help group.

ICPUGS's advertisement elsewhere in this issue gives details on how to join.

Bavin Clarke ICPUG Technical Co-Ordinator

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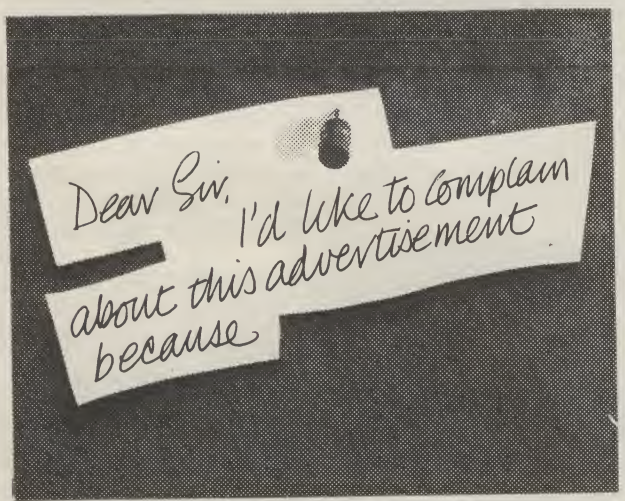

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If you are seriously interested in using or programming any Commodore computer, then joining ICPUG is a must!

For full details, send a stamped, addressed envelope to:

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CP/M AT LAST

CP/M Kit
CP/M Users Guide

I wonder just how many people who bought their lovely C128s were sorely disappointed with the lack of information and support for the CP/M operating system sleeping in the heart of their new machine?

I remember the advertising campaign promising us a machine with 3 modes of operation with either 40 or 80 column text. In the event I found that there was barely any dedicated software available for the C128. A couple of years later on and we now have a growing library of very good business, utility and home productivity programs.

In the early days I found that my machine was beginning to resemble a nice looking version of the C64, as this was the mode with the largest software base. But what ever happened to CP/M?

Have you ever used the CP/M system disk that came with your 128? Did you quickly give up after a couple of sessions that led you nowhere? Could you work out how to get the best from using CP/M? Well I was one such owner, lost without advice, and consequently putting the disk away at the back of my box file and forgetting it, using my three mode 128 in only two modes. I thought that surely somewhere someone would come up with the answer.

Well, there is life after the system disk! There is help at hand and here are a couple of things I want to tell you about so that you can at least remember CP/M and hopefully rekindle your enthusiasm.

Firstly there is a disk package called the CP/M Kit. It comprises of three disks and a helpful booklet. One nice thing is that the booklet is written with the complete beginner in mind, assuming no previous knowledge of CP/M.

Secondly I have come across a book that should have the title 'Everything you wanted to know about CP/M but were afraid to ask". The real title is C128 CP/M User's Guide. It contains over 300 pages of information covering all aspects of how to use CP/M and where to get hands on free Public Domain software.

CP/M Kit

Here is a very nice introduction into CP/M. You are treated as a complete novice with helpful guides, step by step, through to a thorough working knowledge of the system. Using the 280 microprocessor, did you know that there are several advantages over the standard system? Well, when using the 1571 drive, data is read approximately 12 times faster then when in 64 mode and about twice as fast as when in 128 mode.

The kit contains three disks and a manual. The manual is organised into four chapters. Chapter 1 the obligatory introductions, in Chapter 2 explanations of using the basics of CP/M, such as loading, formatting, copying files, getting assistance and displaying documents. All using simple examples combined with the disks. Chapter 3 demonstrates some of the CP/M features using several exercises such as using resident commands and also some of the programs on the system disk supplied with the 128. Chapter 4 shows how to connect two computers via a modem and exchange CP/M public domain software.

The disks in the kit contain a large number of public domain programs. These include a word processor that will hold up to about 50K, and this is a very nice word processor and is fairly easy to use; a clever chess program in CP/M mode. This version has a board but does not have any graphics, but plays a good game of chess at a reasonable speed. Rules cna be read from within the program.

I could list them all, but to tell you that there are over 20 neat programs in all included with this kit, it must be a bargain! Whoever said "You don't get something for nothing" was wrong, Public Domain here we come!

C128 CP/M User's Guide

This book reveals all that there is to know about using and obtaining CP/M programs. I suppose it could be described as an in depth guide into the use of the CP/M system and the internal workings of the 280. It gives a short listing of the important addresses in ROM and starts out to give a complete ROM listing. I feel that this book complements the previous review (CP/M Kit) and must be considered as an essential aid to a better understanding of CP/M.

There is a section of the book simply dedicated to the hardware you are using, the binary system and storage devices such as hard and floppy disks. It then goes on to describe fully the operating system and its history. More than just the Commodore version is covered, as CP/M was intended to be a universal operating system. The rules governing working with CP/M are all covered giving a user the full syntax for copying files right down to the filename extensions. Resident commands are covered (these are the commands always on hand, residing in ROM, for instant use). There are the transient commands such as Help or Submit (two falls or a knockout to decide the winner!) these have to be loaded each time.

Everything about PIP (to the newcomer this means file copying!) too. There is a chapter on using the MAC assembler, I bet you did not know there was an assembler on your system disk did you? Well there is! Inside this vast book, it uncovers all the mysteries surrounding CP/M. Written in the foreword it says "Like the weather, everyone seems to talk about the C128's CP/M mode, but no one does anything about it." Well this is now not the case. Those who predicted the death of CP/M will have to be patient for a few more years yet.

Torpid 280s wake up!

B.C.

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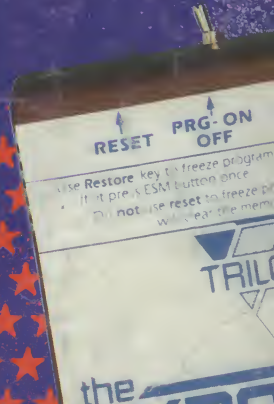

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